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A
Practical Differtation
O N
Bath Waters.

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|---|---|
| I. Of the Antiquity
of <i>Bath</i> and its
Waters. | VI. Of the Virtues
of <i>Bath</i> Waters in
particular. |
| II. The Origine of
Springs. | VII. That they are
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<i>Bath</i> is very healthy. |
| V. Of Drinking the
Waters and Ba-
thing, and Directi-
ons in Both. | X. Of Cold Bathing. |

To which is added,
A RELATION of a very Extraordi-
nary SLEEPER near *Bath*.

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of the College of Physicians, *London*.

L O N D O N :

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Keys in *Cornhil*. 1707.

DEDICATION.

dom and of War; she had her Temple and Altars near them. Did the **Christian Religion** allow such Consecrations, as were usual among the Heathens, your Majesty might certainly expect the same Reverence paid to your great Name, so true a Veneration have your Subjects for your Conduct and Goodness. Your Successes both at Home and Abroad, give You a glorious Right to those Honours, which the Moderns, as well as Ancients, must concur in paying to the Patroness of Vertue,
Know-

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Knowledge and Valour.

But I think there is a better Reason, why these Fountains ought to be Sacred to Your Majesty, since God has been pleas'd to bestow them on us, as he has given Your Majesty, to be a Common Blessing to Your People. They by their Balsamick Virtues Cure the Diseases and Infirmities of the Body, as You by your Peaceable and truly Christian Spirit heal the Divisions, and Dissipate the Groundless Jealousies of your Subjects. And what adds no small Lustre to Your Glory

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here, and will make You Dear to Posterity hereafter, is, That in Your Majesties most Auspicious Reign, Great-Britain was United, a Publick Good to both Kingdoms, which none of Your Royal Ancestors could Accomplish, though They more than Once attempted and desired it. May Your Majesty soon see a Happy and an Honourable End of so just and necessary a War, as You are now engaged in, against the Common Enemy of Mankind ; may You long Enjoy the Fruits of
a

DEDICATION.

*a lasting Peace, and then
Change this Crown for a
Better.*

I am

Your Majesties

most Humble and
most Obedient Subject,

William Oliver.

INTRO-

T H E

INTRODUCTION.

WHAT the ancient *Poets* feign'd of their *Nectar*, or Drink of their *Gods*, may be truly said of our *Bath Waters*, that they are not only of a delicious Taste, but also of admirable Use for the Preservation of *Health*. Like the *Water of Life* in the Revelations, *clear as Chrystal*, design'd by Heaven for the Healing of *Nations*. It has always been reckon'd as a *Blessing* to any People, that their Country abounded with *Fountains, Springs and Rivers*.
These

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These were had in great Respect among the ancient *Egyptians*, and a *Pitcher* filled with Water, and cover'd over, was their *Hieroglyphick* for *Health* and *Long Life*. The learned *Pagans*, as well *Greeks* as *Romans*, invoked their *Rivers* and *Fountains* as their *Gods*, or at least they thought their *Gods* had their constant Abode there. And Mr. *Collier* tells us in his *History of the Church of England*, now in the Press, That the *Fathers* of the old *British Church* the *Druids* instituted the same Worship here in *Britain*, presuming, as I suppose, that *Springs* and *Fountains*, *Rills* and *Rivolets*, were the true *Naiades*, or the Legitimate Daughters of their great God the *Ocean*. Now that which gave occasion for

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for their establishing this *Deity*, was a very ancient Opinion among *Philosophers*, That Water was the *Panspermia* or Parent of all Things, the *Materia Prima*, that had no *form* of its own, but was susceptible of all *Forms*, from the Aptitude of its Parts, to insinuate themselves, or to be assimilated into any Body whatsoever. But then Medicinal warm Waters were more profoundly revered, as the peculiar and special *Care* of *Providence*, as the Cherishers and Support of *Life*, design'd by their Humidity and VVarmth, to restore our *Radical Moisture* when spent, and recruit our *Native Heat* when languishing or decaying. Of this kind are the VVaters I am now about to treat of; the proper practical Use of which, and the way

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way of their Operation, shall be my chief Care, troubling my Reader as little as possible with any Speculations or Disputes, because I am of Opinion they signify little to the World whether true or no.

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C H A P. I.

Of the Antiquity of Bathing.

WHEN *Bathing* began to be of Use, and who first recommended it to Mankind, no Records that I know mention. Probably it is Man's Curiosity and Reason put them first upon the Experiment. For how natural is it for us to believe, Rational Creatures, when they found their Blood fired with the scorching Sun Beams, should imagine,
B that

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that Bathing in cold Water must clean, cool, and refresh them ; as also by a parity of Reason, that warm Baths in weak and cold Constitutions, must Strengthen, Comfort, and Relieve them. And thus by Use and Observation, from repeated Experiments of this kind, Men were by little and little, better acquainted with the Vertues and Advantages of both *Hot* and *Cold Baths*. Certain it is, we find frequent mention of Bathing in *Holy Writ*. And *Homer*, * one of the oldest Profane Authors we have, tells us, That *Ulysses* and his *Comrades* Bath'd first in the Sea, and then in warm Water, to refresh themselves after a Fatigue before they din'd. That *Baths* have been very Ancient in the Eastern Countries, is attested by *Plutarch*, *Strabo*, *Diodorus Siculus*, *Pausanias*, all the ancient *Poets* and *Historians* making frequent mention of them in their Works. And *Andr. Baccius de Thermis*, *Mercurialis* in his *Gymnasticks*, and the old Authors *de Balneis*, are full of Instances, of the Uses the Ancients made of their Cold, Hot, and Temperate *Baths*.

* *Illiad*. 10.

The Romans especially much improv'd this part of Physick; very noble and magnificent Publick Baths were erected at the Charge of their Emperors, who Bath'd in Publick frequently among the People, to ingratiate themselves with them: And some, 'tis said, were so large, they resembled Cities; not with *Ammianus Marcellinus*, to call them Provinces. 'Twas upon this Account *Agrippa* built 170 publick Baths for common Use. And *Pancirollus* tells us, there were 856 Baths at Rome at one time. *Prosper Alpinus* says *, That at Grand Cair they had a great many very magnificent Structures for Bathing, which were much frequented by the *Egyptians* in his Time. And we are well assured from Travellers, that all over Turkey tis of great Use at this Time. Nor are our Antient Physicians silent in this Point, as we may see at large, in the Works of *Hippocrates*, *Galen*, *Ætius*, *Trallianus*, &c. where the manner of Bathing in all their different Baths is very amply described.

* *De Medicin. Ægypt. lib. 3. c. 16.*

Of the Antiquity of Bath.

IT may not be amiss, I presume, if I offer my Conjecture in the next Place, concerning the Antiquity of *Bath* and its *Waters*. As to the *Waters*, I am of Opinion, they are as old as the Creation, when the Waters were separated from the dry Land: Providence design'd these, which continue to be recruited to this Day in the Bowels of the *Earth*, from their own proper *Seeds*, as all other Natural Things do, whether *Animals*, *Vegetables*, or *Minerals*.

Lucret. *Multaq; sunt ignis prope Semina
Corpus Aquai.*

But after all, I hold it very probable, the *Romans* first built the Town for the sake of the Waters they found there. Though I can hardly allow the Honour of it, as some do, to *Julius Caesar*, whose Conquests in *England* hardly extended beyond those Counties we now call the Home Circuit. 'Twas usual among the *Romans*, where e're their Conquests extended, to introduce their *Customs*, *Law*, and Manner of Living; now Bathing being one of their chiefest Exercises, 'tis not un-

unlikely they might bring in this among the rest. For whatever Stories we have of *Bladud* the *Necromancer*, Cotemporary with *Elias* as the first *Founder* of these *Bath*, wise Men think they are not only Apocryphal but meer Fable and Romance, and that the *Britains* before *Cesar's* Time, were hardly Polite enough for such Exercises: Especially if it be true what *Strabo* says of them * (I fear too true) who wrote about the Time of our Saviour, That they lived Wild in the Woods with their Cattle; and though they had a great deal of Milk, they had not Sense enough to make a Cheese Now that which seems to favour the Conjecture, that the *Romans* first built this Town is, That there is a great deal of Artifice in the Foundation of it, and the *Romans* being very great Masters of *Architecture*, as is well known, were much more capable of such Contrivance, than I fear the old *Britains* were at the time this Town was first built: And this is more probable, if it be true what *Solinus* said of the *Fontes Calidi* in *Britain*, which the Learned conclude to be the same with the *Thermæ* in *Ptolomy's Tables*, who wrote before him, That they were *opiparo Exculpti apparatus ad usus Mortalium*, That

* Lib. 4.

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they were handsomly contriv'd for common Use. 'Tis observable, the Town stands upon a *Bog*, the Ground is all made, and the Earth seems as if it were girded and kept in by the Walls, which in some places, particularly near the Walks, is twenty Foot higher than the Land without the Walls, which makes the Wall give way ; and argues 'tis Artificial. not Natural. And I am very much inclined to think, the *Romans*, (who were very famous for their *Aqueducts* under ground, according to *Vitruvius*, * who liv'd in *Augustus's* time) have by some Contrivance of that kind, secur'd the main Spring, which preserves the Waters pure from any Mixtures with other cold Springs, which are frequent all over the Town, and would soon spoil these Waters, if they communicated with them. That 'tis a Bog *Dr. Guidot* assures us ; for digging not long since, he says they came to meer Mud, and run a Soldiers Pike into it of a great length, without finding any Bottom, but a warm Marly, Sulphurous Mud, sticking to the Pike. Now there are several cold Springs in this Town, most of which are Brackish, and will not Lather : But one I know at

* *Ductus autem aque sunt generibus tribus, rivis per Canales
fructiles, aut fistulis plumbeis, seu tubulis fictilibus, lib.8. c. 8*

Mr. Cornish's, in the Grove, so soft and pleasant, that it Lathers well, and serves for all the Uses of the House. Now if the hot Springs had not been secured by some extraordinary Artifice from the Cold Springs, I am afraid they had hardly been preserv'd unmixt so long. 'Tis very remarkable, that notwithstanding the many *Fates* and *Revolutions* Bath has met with in the many *Saxon* Wars, yet some of the *Roman* Stones have remain'd in the Walls, with *Roman* Figures, and *Latin* Monuments, very visible and legible at this Time To trace the Original of these Waters, and the first time of their Use, is to unravel the Creation. Very well we know, *Ptolemy*, *Antoninus*, and *Solinus*, are the first Authors that have mention'd these Waters, who all liv'd about 14 or 1500 Years ago: And nothing is more certain than the uncertainty of the Time they had been in Use, before these Authors wrote. That *Ptolemy* meant Bath by the ὕδατα θερμά, in his Second Book, and Third Chapter, is probable, because speaking of *Britain*, he places it in 50 Degrees and 40 Minutes Latitude, not far from *Ilchester*, which he calls *Iscalis*.

Antoninus in his *Itinary*, tells us, *Aqua Solis* lies in the way from *Bristol* to

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Warmister, from whence it is distant about 16 miles, which argues they meant both the same place. And no doubt but the *Fontes Calidi* in *Solinus*, (*a*) is meant also of *Bath*, there being no *Hot Waters* in *England* besides.

These are the first *Names* I find upon Record of *Bathe*. By the *Britains* afterwards and the *Welch*, it had several *Names*; sometimes they called it, as Mr. *Gambden* observes, *Caer Ennaint*, the City of Ointment; then *Caer Badon*, afterwards *Caer Palluddur*, because of *Minerva's* Temple there, who was the *Patroness* of Hot Waters. By the *Saxons* after them, *Bathancester*, *Hat Bathan*, *Achmanchester*, or the City of Sick Folks. And now lastly by the *English* called *Bath* or *Bathe*.

C H A P. III.

Of the Origin of Springs.

I Shall not in this place Philosophically consider *Water* as an *Element*, there being but one *Universal Matter*, out of which all things are made, according to the specifick and determinate Motions imprest on

(*a*) Polyhist, Cap. 22.

it, by the first *Mover* of all things, which denominates it this or that. So Matter by one motion becomes Water, and by a variety of Motion, becomes *Earth* or *Stone*, *Tree*, &c. I shall only then consider it as an Heterogenious Body, such as we find it in Springs and Fountains.

In the next place, Authors who treat of the *Origine* of *Springs* and *Fountains*, observe two sorts of them. 1. Such as are temporary often dry in Summer. 2. Perennial, such as in Winter and Summer, wet or dry Seasons, are always the same, not at all alter'd, as to Quantity or Quality. Of this last sort, our *Bath Waters*, my present Subject, must be reckon'd; for in the dryest Summer, or in the most dropping Winter, they are still the same. Now there are Varieties of *Causes* of *Springs*, assign'd by the Authors, next to be consider'd. Some are of Opinion they proceed,

1. From Caverns and Lakes under Ground, which, by Subterranean Fires, ascend in Steams or Vapours, and by the cold Rocks, are condensed into Water.

2. From Rains or Snows melting from the Tops of Mountains, and falling down through the Clefts of Rocks.

3. From

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3. From Vapours condensed on the sides of high Mountains, as Mr. *Halley* thinks, from some Observations he made at *St. Helena*.

4. From hidden Passes in the Earth, through which the Sea soaks into its Pores as Water into a Sponge, or dry Cloth, leaving its Salt behind it, and so being, as it were one *Continuum*, may, by its own weight, or Impulsion of the Circumambient Air, as thro' a Syphon, be convey'd to the Tops of the highest Mountains. This seems the more probable, if it be true, that the Sea near the Equinoctial, is much higher than at the Poles, and that the Superfice of the Sea, is higher there than any Mountain in the World. Besides, many are of Opinion, that the Center of the Earths Gravity, and that of its Magnitude are at some distance one from the other, and if so, then Water may rise to the height of the highest Mountains, without any external force at all.

5. And lastly, 'Tis probable the Earth, as all other solid Bodies, has its Perspiration or Atmosphere, from its whole Superficies, whole Vapour or Moisture, being check'd by cold Rocks near its Surface, may be the Cause of Springs. This per-

perhaps may serve to solve a very odd Phenomenon, that happened in the Year 83, during the hard Frost. For Mr. Ray, (a) that curious Enquirer into *Nature*, tells us, That he had observ'd at that time, all the Springs about him broke out and ran more plentifully, than usually they did at any other time: Now these are the Speculations and Notions of *Philosophers* on this *Topick*, some contesting for one, some for the other, as the *Cause* of *Springs*. For my part, designing chiefly what is practical, I shall not enter the List by way of Dispute, contenting my self only with giving you my Opinion upon the whole, that the *Primary* and *Original Cause* of all *Springs* is the *Sea*, into which all the *Rivers* run, as into the Place from whence they came, as the Preacher tells us. And all the other Causes mention'd, may be allow'd to be *Secondary* and *Subordinate*, or rather, the several Ways *Nature* takes, to make out of Salt-Water sweet Springs.

(a) Miscellaneous Discourses, p. 91.

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CHAP. IV.

Of the Ingredients in the Bath Waters.

IT may not be amiss here to observe, that let the Cause of *Springs* be what it will, that in all probability medicated *Waters*, such as we are treating of, owe their *Virtues* to some mineral or imperfect metalline Substance in *Principiis Solutis*, they meet with in their way, which they are impregnated with, not far from the place where they break out. Now as some Parts of the Creation have attained to their Perfection, so other Parts will be always *in fieri*, or *in via ad Generationem*, or in the way to Perfection or Generation, whereby our *Bath Waters* will never fail of their *Heat* and *Virtues*, as the learned *Jorden* tells us. Thus Medicated Waters are form'd according to *Aristotle*, (a) *Tales sunt aquæ, quali est natura eorum per quæ transeunt*, that Waters partake of the *Nature* of the Places through which they pass And *Galen* (b) tells us, *Quæ ex.*

(a) Lib. de Sentil. & Intensi'. (b) Lib. de Simpl. Medicin.

Est & *sincerè aqua est, si per bituminosa, Sulphureosa, &c. loca decurrit, substantiæ aliquid absterferit secumque traxerit*; that is, The most simple elementary Water, if it happens to pass through bituminous or sulphurous Places, are impregnated with, and carry off some of their Particles with them. I do not design in this place to give you any exact *Analysis* of these Waters, their component Particles are so intimately and perfectly united and blended together by Nature, that no Art will ever be able, I am of Opinion, to make any accurate Separation of their Ingredients, or to imitate them. That they are compounded of a *Neutral Salt*, or as *Blondell* calls it in his Treatise of the Baths at *Aken*, a *Chaos* of *Salts*, i. e. Several sorts of Salts mixt together, as perhaps *Sal Gem.* *Nitr. common Salt* and *Vitriol*, besides *Sulphur Bitumen, Earth, Ocre, or Freestone* and *Water*; that is, simple common Water that has neither smell nor taste, clear, transparent and light, is very probable. But what *Quantities* of these are employ'd in this Composition, is, and I believe ever will be, an insuperable Difficulty. Most certain it is they are few, and the Waters little more than Elementary, as to taste and smell when cold, all the Ingredients,
both

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both Metalline and Mineral, not making above the 300th part after Distillation, and but one third of all these Ingredients saline, as Dr. Guidot has observed, p. 46. That there is a Gas in them, or an exalted *Vitriolick Steel*, may easily be prov'd by our Senses, because while warm, we can taste and smell it. But this is lost when cold, tho' never so well stoppt or *Hermetically* sealed up in Glass, which, like the Effluvia of the Magnet, pass and repass every where, being of too subtil and volatile a Nature to be confin'd, *Tanquam Gas Sulphureum vini in nullum Corpus reducibile*, as *Becher* (a) has it. And whoever shall at any time endeavour to collect it, will perhaps succeed little better than *Cornelius Drebbel* did, who endeavour'd to distil out of several Bodies, and bottle up the *Anima Mundi*, or Soul of the World. This is that *Acid* that gives the Purple Tincture when mixt with Galls warm from the Pump, which it will not do when cold or taken out of the Bath, because expos'd to the open Air. This is that *Acid* also, that corrodes all the Iron Work near and about the Bath, several Instances of which any one may see on the place, that has a mind to satisfy his

(a) *Phylic. Subterranean*, p. 9.

Curiosity. And I am very much mistaken too, if it be not a very hard task to prove that the very Quantities of Salts, Sulphur, Earth, Water, &c. which Chymists find in them after Distillation, are the same which *Nature* employ'd in their first Mixture. Every body knows, that has any Notion of Chymistry, that the Operation of *Fire* upon any Bodies, makes great Changes in their *Textures*, insomuch that sometimes they alter their very *Hypostatical Principles* (as the Chymists are pleased to call them) and produce somewhat new, and of a different Nature, from what they were before. Thus Stones and Mineral alter their Nature quite, when by a strong Fire they are vitrified and run into *Glass*. These Considerations discourage me from being too nice in my Enquires what the Ingredients of these Waters are, and the Experiments made by others shall satisfy me. I wave all doubtful Speculations, as of little use in Physick, all the Curiosity I have or pretend to, being only to know practically what Effects they have on the Constitutions of Mankind, and I am perswaded the only true way to recommend them to the World, is by *Practical Experiments* and Observations made upon their Use.

C H A P. V.

Of the Cause of their Heat.

TH E Causes of Things lie very deep, and, as the Poet says, he is a very happy Man that can find them out,

Felix qui potuit rerum dignoscere Causas.

Upon this Account, I shall not be very positive in my Assertion on this Head. Authors have entertained various Notions and Opinions about the *Heat* of Mineral Waters, some say they are caused by the *Sun* and *Stars*; others attribute their Heat to some particular *Putrefactions* in the Bowels of the Earth, others to *Lightning*, *Subterranean Fire* or *Fermentation*. I shall not entertain my Reader with any detail of all these Suppositions, contenting myself only with the two last, which I think chiefly deserve to be consider'd in this place, That Subterranean Fires are the Cause of the *Heat* we find in our Mineral Waters, is maintain'd by grave Authors. We all know there are such Subterranean Fires at *Hocla*, *Vesuvius*, and Mount *Ætna*,

na, &c. but that this is not our Case at *Bath*, I humbly conceive for these Reasons following. 1. It is hard to conceive a Fire should burn here so long underground, and never break out any where, as the burning Mountains do. Fire must have its *Spiracula* or Vents, or else it stifles it self.

2. Fire must have its *Air* too continually to Agitate and Fan it, so that the Particles be always kept in Motion, or else it soon goes out. Now 'tis easy to show how the burning Mountains may be supplied with Air, the ground for a good space round being warm'd, parch'd, and cleft in many places, and has also many Holes, which may no doubt supply those Fires with *Air* enough to continue them burning. But no Footsteps of them appear near the *Bath*, that I know of, that can cause any thing of this nature.

3. Were Subterranean Fire the cause of this Heat, I am of Opinion our Waters would be sometimes hotter, sometimes colder, that they could not always continue of an equal Heat. For the Fires in all the places mention'd burn with one constant Tenour, are sometimes hardly discernible, and at other times break forth with a great deal of Fury and Noise, as they have

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more or less Fuel to feed them. Besides, if the Sun it self, which is the brightest Fire we know, has not only its *Maculae* or Spots, which vary often, as the accurate *Scheiner* has observ'd, but has also appear'd with a very dim and dusky Hue for several Days, nay Months together, as *Pliny* and *Cedrenus* tell us, how then is it to be conceiv'd, any Subterranean Fire can burn thus steadily, with the same equal degrees of Motion and Heat? And if not, then how comes our Waters at *Bath*, Winter and Summer, to have always the same Heat?

4. I humbly conceive, that if *Subterranean Fires* were the Cause of the Heat of *Bath Waters*, the Mixtures wou'd be confus'd and imperfect, and the combustible Matter wou'd mix with them and foul them, that they cou'd not be of so grateful and pleasant a *Taste* neither; whereas at present they, by the peculiar Cookery of Nature, are not only very pleasant in *Taste*, but of a very fine Chrystal clear colour

These Considerations incline me, I must confess, to believe, they rather owe their Heat to *Fermentation*, because I can easily imagine how from a Mixture of differing Salts dissolv'd in Water, with other Ingredients,

gredients, constantly supplied by Nature from their proper Seminaries, may follow such a Fermentation and Heat, *ex motu fit Calor*, and according to the Degrees of Fermentation and Motion, will the Heat be more or less. Any Acid or Alkali mixt together will do the same, and the Spirit of *Nitre* and Oil of *Turpentine* cold, will actually inflame, mixt together, almost in an instant. And this I take to be the Reason, why *Bath Water* keeps its Heat so long, viz. seventeen Hours, or more, as Dr. *Pierce* * has observ'd, though in a frosty Day, and in a place where the Window was left open all Day ; which no Water heated to any degree by Fire will do. From whence the Doctor learnedly concludes, place afore said, " That this proceeds not from " any extraneous *Heat*, as that of under- " ground *Fires*, but from some Mineral " Particles rather within it self, which " till they are evaporated, continue the " Water more or less warm. And these " Mineral Particles probably stick closer " to the little Globules, that make up the " Consistence of Fluids, than those com- " municated by Fire could do.

The *Sieur d' Ayglun*, or Monsieur *Rochas*,

* Preface to his *Memoirs*.

in his *Treatise of Mineral Waters*, printed at *Paris* 1635. has given us the most Satisfactory Account of this Matter I ever met any where. “ This Gentleman being a very ingenious Virtuoso at that time, had the Curiosity, he tells us to find out the Cause of a *Hot Spring* he met with in the Mountains of *Savoy*, and the *Nature* of the *Contents*. In order to this, he got Work men to dig into it, and trace it to the *Original*, which in fifteen Days time they found. And here, he says, the Water was very hot, boyl’d mightily, and cast off a great deal of *Scum* from it. Digging on three Days longer the Water was quite cold, tho one continued *Stream* with the former, and very different from it in Taste. Upon which he comes to this Judgment of the Matter, That the same *Water* was Hot and Cold, according to the place it pass’d through. That this Earth where the Heat was, could be nothing else but a Mine of *Sulphur*; and that the Water had in it an *Hermetick Salt*, whose *Nature* he would not determine; and thinks it plain, the *Spirit* contain’d in these Waters, piercing into the Substance of the *Sulphur*, caused that *Ebullition* and *Heat*, just as *Water* cast on *Lime*.

Pursuing

Pursuing his Enquiries further, in twelve Days time more he met with *pure Sweet Fountain Water*. This is that Author *Dr. Pierce* mentions in his Preface to his *Bath Memoir*. He was a Man of considerable Substance and Parts, and can hardly be supposed to impose upon the World. He is an Author very well worth reading in French, or as you find him in the end of the sixth Volume of *Theatrum Chymicum*.

But how ignorant soever I acknowledge my self to be after all my Enquiries, the Experiments I have made, the Books I have read concerning *Hot Springs*, and particularly those of *Bath*; what the *Ingredients* are, as also what's the Cause of their *Heat*; yet I make no Scruple at all to tell the World, from my own Experience, upon my self and others, for about ten Years, I can never enough admire their *divine Composition*; and cannot but think it one of the greatest *Blessings* God has bestowed on the *Inhabitants* of this *Island*, that we have such *Balsamick healing Springs* as these are to resort to, which are so great a *Remedy* in most of the *Chronick* Cases that afflict Mankind.

C H A P. VI.

*A Description of the several
Baths in Bathe.*

IN this City are three principal Baths, which though not comparable in Magnificence with the Baths at *Rome*, which were much larger, and adorn'd with many marble Pillars, and curious Workmanship of Silver and Gold, studded with great variety of precious Stones, which gave their Baths a charming Lustre, yet are built very convenient, kept clean, and in good Order.

1. The *King's Bath*, this is the largest Spring and hottest Bath of all, which by the turn of a Cock, the Guides can make hotter upon occasion; and sometimes I have known it too hot to be endur'd. In the middle of this Bath, under the Cross, about two Foot under Ground, is a Cistern of Lead with its Mouth downward, in length about six Foot, and five Foot broad, and round about it large Stones, between which the Water rises and bubbles

bles up into the *Bath* and fills it. Through this Cistern, by Pipes of Lead, are the Waters convey'd to both Pumps for drinking. This *Bath*, Dr. *Guidot* says, is about 57 Foot long and 40 broad. It has several Niches round it, with Seats for the Bather to rest themselves in, and a large wooden Fabrick called the Kitchen, where Bathers may sit dry in wet Weather ; there is also a private Pump for such as have occasion. This *Bath*, I take it, is the best in all Cold, or old Aches, or pains in the Bones, Scorbutick Rheumatisms, Palsies, Cholicks, and all Diseases in the solid Parts, which are more perhaps, than the World at present will allow, who attribute all our Distempers to the Humours. By the help of this *Bath*, the intestine Motion of the Blood is heightned, all its component Parts agitated, and attenuated, so as to dispose the Patient to plentiful Sweats after in Bed, which are of great Use to such as want that Evacuation. *The Queens Bath* is but an Appendix to this *Bath*, parted from it by a Wall, and communicates with it by means of an open Passage, through which the Bathers pass and repass at pleasure, according as they desire a warmer or a colder *Bath*. This *Bath* having no Springs of its own, but re-

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ceiving all its Water from the *King's Bath*, is not so warm as that is, and so may serve better, where more temperate Heat is required. It is of use to many as a *Frigidarium*, or at least a *Tepedarium*, who having Bath'd in the *Queens Bath*, use to cool themselves here a little before they go to Bed, to prevent too great Heats, and Sweating too much; it is almost a Square, twenty five Foot long, and twenty four broad; it has a cross in the Middle, supported by stone Pillars, convenient Seats round it, a private Pump, and a private Parlour, upon Occasion, to Bathe in.

2. The *Hot Bath*, so called because once the hottest of all, as *Jones* * tells us it was in his Time, though not so at present, because the *King's Bath* is hotter. So that this *Bath* may be used successfully by such, as could not bear the degrees of Heat of the *King's Bath*. Its length is between ten and eleven Yards, and its breadth between 4 and 5. It has its *Springs* at the West end, where the *Well* is, that Supplies not only its own Pump, but that of the *Cross Bath* too. The *Well* is conveniently cover'd over with Stone, to prevent any

* *Bath's Aid*, page 21.

communication with the Water of the *Bath*. This Bath being so narrow in proportion to its length, may be easily cover'd over, and made a close Bath, as the Baths abroad are, which would be of great use, not also, only in the Winter time, but in Summer when the Weather is Cold and Windy.

The *Leper's Bath* is but a part of this, divided from it by a firm Wall, and has not the least communication with it, but by a hole in this Wall, through which the Water of the Hot Bath passes into this, which has not Springs enough of its own, and is supplied by this. In this Bath poor People and Lepers Bathe by themselves, and have some small Allowances from the Town and Strangers for their Subsistence, while they stay here. This *Hot Bath* then, as it is next to the *King's* in its Heat, so in the Vertues too ascribed to it, only may be of more use to some Persons, who are not able to bear the degree of Heat in that Bath.

3. The *Cress Bath*, which is the most temperate of them all, and for that Reason may be of very good Use to *Bathers*. Many can't bear the Heat of the Kings or hot *Bath*, because they occasion *Heats* and *Fevers* now and then, and various other
Disor-

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Disorders arise from the irregular use of those *Baths*. All these may be prevented by the Temperature of this *Bath*, in which Hysterical Women, and Hypochondriack Men, bathe often with good Success. This *Bath* is much the same with the *Queens*, as to its degrees of Heat, but is to be preferr'd to it; because it has *Springs* of its own, which the *Queens* has not, and is the better Bath far; the Reason of this Opinion, I shall give towards the close of this Dissertation. There is one thing not to be omitted here, that this Bath is peculiarly famous for Shrinkings, and Contractions of the Nerves, and Tendons. Very eminent Instances of this kind have fall'n under my Care and Observation, and the *Votivæ Tabulæ* were hung up for a Remembrance of the Cure; which I am very apt to think will hardly succeed so well in any other *Bath*, because of their too great Heat. In the Year 1692, I was concern'd for my Ld Mordaunt, then about 11 or 12 Years old, who had such a Contraction of the Tendons of both his Hams, that he could neither go nor stand; and one Leg was longer than the other by about two Inches, and thought incurable. He Bath'd only in this *Bath*, and in less than 2 Months was able to walk. Winter coming on he went to *London*,
and

and early in the Spring went down again, by my Advice, and became perfectly cured beyond all Expectation.

There is one general Observation to be made on all the *Baths*, That the more *Temperate* the *Bath* is, the longer Time the *Patient* may stay in it, when he Bathes, and the fewer inconveniencies attend it. Upon the whole, the Constitution of the *Patient* must be consider'd; for many can bear the Temperature of the *Cross Bath*, that can't bear the Heat of any other. As to the time of going into the *Baths*, the *Patients* stay there, which *Bath* best, how often to be repeated, and how long to be continued, all these depending on the Constitution of the *Patient*, and the particular Case, cannot be determin'd, but upon the place: And these are to be well consider'd, because Errors and Mistakes herein are of very ill Consequences, and often frustrate us of the Benefit we expected by the *Bath*. But if these Circumstances are rightly manag'd, the *Patient* gets great Advantage, and often finds a good Habit of Body succeeds the Use of the *Bath Waters*. And herein the Wisdom and Contrivance of *Providence* can never enough be admired, in ordering such variety of *Baths*, which so differ from

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from one another in degrees of Heat, as to be able to answer all Constitutions of the *Patients*. So that such as are offended by the Heat of the *King's Bath* may use the *Hot Bath*, and if that proves too hot too, the Temperature of the *Cross Bath* may suit their Case, and prove useful to them. After all, I think all our *Baths* are supply'd from one and the same main *Spring*, and so only differ one from the other, according to the distance they are from it, or the indirect Passages thro' which they are convey'd. And this perhaps is the Reason that Dr. *Guidot* met more of the *Ingredients* in the *King's Bath* than in either of the rest; which may have drop them in their longer way. All these *Baths* not only keep the same degrees of Heat in all *Seasons* of the Year, as I said before, in Chap 5. but they alter not likewise in quantity, neither in the driest summer, or the most dropping Winter that ever was known in the Memory of Man. What *Artifice* the *Antients* used to secure those *Springs* so long, what part of the *Town* the main *Springs* lies, or how the *Waters* are convey'd to the particular *Baths*, is altogether unknown to the *Inhabitants* of the Place. So that it is a Traditional Religion among them, not to dig any where
too

too deep, for fear of disturbing or interrupting of the Springs, which would be attended with very ill Consequences. Having premised thus much for the gratifying the Curiosity of such, whose Enquiries lead them to the pursuit of the Historical and Philosophical Part of the *Bath Waters*. I shall in the next place acquaint my Reader with the Methods to be used at Bath ;

1. In Drinking.
2. In Bathing, and that with all the Brevity I can.

CH A P. VII.

Of Drinking Bath Waters.

P*ausanias* (a) tells us of Hot Waters near *Cardia* that were pleasanter to drink than Milk. The same Author says in his 8th Book, (b) that in *Arcadia* there was a Spring, whose Water drunk was an infallible Cure for any bite of a mad Dog. And *Vitruvius*, (c) that great Architect and Philosopher, says, Some Hot Waters are proper to drink,

(a) Comment. lib. 4. (b) Idem, lib. 8. (c) De Architect. lib. 8. c. 3.

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and others to Bathe in. *Hypocrates*, &c. (*a*) commends the Use of warm VVaters inwardly. *Scribonius Largus* (*b*) commends Steel VVaters inwardly for an Ulcer; and *Ætius* (*c*) ascribes very great Vertues to the Use of Hot VVaters internally. *Galen* (*d*) commends Hot VVaters as Cleansers of our Bodies; *Ægineta* for the Leprosie; *Trallian* for the Cholick; *Avicen* for Obstructions and inward VWeaknesses. *Archigenes* in *Ætius* cries up the Effects of Mineral VVaters, internally taken, as very great in Ulcers of the Bladder, and several other Cases. And *Baccius*, *Fallopins*, *Mercurialis*, and many other Moderns, in their Works, have all recommend the Use of Hot Waters internally in many Cases. To conclude my Authorities for the Antiquity of drinking Medical Waters, *Henricus ab Heeres*, *Blondel* and *Mons. Aubery* tells us the *Spaw Waters* in Germany, the *Warm Waters* at *Aken*, and those of *Bourbon* in France, have been drank time out of Mind. But we can't affirm the same of Bathe, for tho' they were drunk in Dr.

(*a*) Lib. de Aere Aquis &c. (*b*) Cap. 146. (*c*) Tetr. 1. Ser. 3. Cap. 165. (*d*) Lib. 4. de Sanitat. tuend.

Jones's time, as we see in his *Baths of Bathe's Aid*, p. 28. who wrote about one hundred and thirty Years since, yet very few drank them about 25 Years since, when I was there, and few came thither but to Bathe. Probably from some conceived prejudice, that the Ingredients contain'd in the Waters, consisted of Particles injurious to our Natures, but many Experiences since have convinced the World, and recommended them to a more General Use. The extraordinary Operation of the Waters in Mr. *George Long's* Case of *Skip-ton-mallet*, near *Wells*, in the Year 91. gave a very great Reputation to these Waters, for he drank them and nothing else, except a little Wine now and then, for near two Years, by which means, from a perfect Cripple, with Stone and Gout, and a quite broken Constitution, he recovered miraculously, and might be said to have renew'd his Age. This Cure first encouraged those Waters to be drank so universally, as they now are, being a Demonstration of their great Alterative, Strengthening and Balsamick Virtues. Whoever has a mind to be satisfied of this Case, may find it at large in Dr. *Pierce's*. (a)

(a) *Memoires*, p. 354.

These Waters then are for the most part drunk hot from the Pump every Morning fasting, or else at Lodgings, as hot as they can procure them. They are drunk hot for the sake of the Neutral Spirit that circulates in them, which being somewhat akin to the Universal Menstruum or Alkaliest in our Stomachs, does wonderfully recruit it when lost or broken. And really it is strange to see its Effects in weak Stomachs, and decay'd Appetites, which are soon restor'd by drinking these Waters warm. I have known several brought to *Bathe*, reduc'd to the last Extremities almost, and whose Stomachs were so very weak, and nice, that they could keep nothing in them, but vomited up every thing they took of either Meat or Drink, and yet such Persons swallow'd these Waters, tho' warm, with a great deal of Pleasure: they find easie on their Stomachs, nourish'd and refresh'd them so, that in a few days time, they began to have an Appetite to Flesh and Fish, and recovered, beyond the Expectation of their Friends.

In discoursing then on these so excellent Waters, for method sake I shall confine my self to these following Heads, 1. The time when they are to be taken. 2. What Quantity, or how much Water is requisite

sit to be taken in a Morning. 3. The manner of their Operation in our Bodies. 4. And lastly, to consider of the Accidents that happen to such as drink them.

1. The first thing then to be consider'd, is the time when to be taken. The most proper time for drinking these Waters is the Morning, between the Hours of Six and Ten, that they may have time to pass off out of our Stomachs before One, the usual time of Dining. It happens sometimes as I have observ'd, some Persons, pass them not off by Urine till about midnight, and with very extraordinary Success. The longer they stay in us, many times the more good they may do, by mixing more intimately with our Blood, and so altering all the Juices in our Bodies for the better. Upon this Account, no one should be troubled, that their Waters do not pass by Urine very quick, provided they find their Stomach not loaded with them, and the Patient is not at all sick with them, for this argues they are pass'd from the Stomach into the Habit of the Body. But if either of the Complaints mention'd are observ'd, then Care must be taken to discharge and carry them off by Art. There ought to be two hours at least for the Drinking of them, for if

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taken

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taken too fast, they pass off too quick, or else purge by Stool, and then the Benefit of the Waters is often lost. Very moderate Exercise is required all the time of drinking between each Glass, least Nature should be disturb'd, and that thrown off by Sweat, which naturally should have been discharged by Urine, as *Baccius* (a) has observed.

'Tis a *Query* among Authors, whether hot Sulphurous Waters ought to be drank in *Winter*, and carried in the Negative, because, say they, Convulsions have often happen'd upon drinking them in that Season. 'Tis certain these Waters, as to taste and heat, are the same Winter and Summer; and infallible Experience tells us, they may be drank at any time of the Year with success, if the Case requires it. All the Objection I know against drinking them in the Winter is, the danger of catching cold upon the use of them in cold Weather, one of the worst Accidents can happen to any Body in the Course of drinking Bath Waters. My reason for it is this, That by the Catarrh the whole Animal Oeconomy is confounded, the

(a) De Therm. lib. 3. c. 3.

mixture of the Blood disturbed, the Glands and Lymphatics are obstructed, and no natural Secretions regularly perform'd as they were before the Cold was taken. So that all the Summer Months are most proper for drinking these Waters, the Weather being hardly ever too hot for the Use of Bath Waters; and the new *Notion* of the first and later *Season* are ridiculous. *March* and part of *April* being many times too cold and windy; as also part of *September* and *October*, for Water Drinkers, that can attend them in Summer, unless for such as content themselves to Winter there, and drink them all the Year, as is necessary in some stubborn Cases. See *Fallopins*, (a).

The whole *Course* of drinking these Waters is five or six Weeks, but in some Cases more; and if I don't mistake Mr. *George Long*, of whom before in this Chapter, told me, He drank little else for about two Years, and met with the greatest and strangest success imaginable by his Perseverance with so much Patience. Ordinarily six Weeks is enough, and then they should be discontinued for a while, to be renew'd again if the Case requires a

(a) De Aq. Thermal, p. m. 237.

longer time. I have often observed in some that have drank them too long, they would not only take off their Appetite, but also make them sick at Stomach. This is an Indication for the most part, 'tis time to leave them off. And then a few Doles of bitter Wine in the Morning, and a gentle Purge, often carries that off in a few days, and they reap the Benefit they expected. These Waters cold at any time, with or without Wine, are the common Drink, at, or between Meals, Malt Drinks being avoided by many, especially in *Gholicks*, or any Diseases or Infirmities of the Bowels, because of its loosening and relaxing Faculty. 'Tis customary also at five or six in the Afternoon, among a great many, to drink a Glass warm at the *Pump*, or at their Lodgings, and sometimes going to Bed, as proper to compleat Digestion and promote Rest, which agrees well with some Persons, as Experience tells us.

2. The Quantity, or how much of these Waters are to be taken. The Quantity of the Waters to be taken, is from one Pint to three Pints in a Morning; some may take two Quarts; few Constitutions require more, for 'tis possible to take too much of a good thing.

This

This I remember once in a Gentleman ten Years ago, who was then my Patient, and wou'd drink five Quarts every Morning, fancying it a little did good, a great Quantity wou'd do much more. I foretold him the Consequences, which fell out accordingly; for in a little time he had stretch'd the *Tone* of his Stomach too far, and pall'd it to that degree, that he quite lost his Appetite to all manner of Victuals, which was very good before; but this, by the help of a gentle Vomit, and bitter Stomachick Wines, was soon restored, and he sufficiently convinced of his Error afterwards. To adjust however the Quantity every one shou'd take is impossible, and many fruitless Journies to *Bath* are made on that Account, for want of knowing the *q. /.* the sufficient Quantity or Dose for the Constitution, or particular Case as it then required.

And there is more nicety in this than every Body will at first imagine for though the Bath Waters are one of the pleasantest, easiest, and best Remedies we have in most Distempers, yet it too often proves ineffectual, for want of Conduct in the use of them. The Dose is half a Pint at a time in most Circumstances; sometimes the third part of a Quart; they

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that drink a full Pint at a time, I am apt to believe are very little the better for it, and overact their part, except in some very few Cases, as where the Person has been accusom'd to large Draughts, or is troubled with Gravel or Stone in the Kidnies; which may sometimes, with Discretion, require it.

3. The manner of their Operation: And here I shall not as some do, attribute all the Virtues of these Waters to the Spirit that is in them, but to the *totum Compositum*. I believe their *Heat*, which is little more than that of our Blood, the *Salts* and the other Ingredients, though small that are in them, may concur to make them easy to the Stomach. And that the watry *Vehicle* too is of some use, in dissolving and altering the vitiated Juices that are lodg'd in the *plushy Coats* of the Stomach, and conveying them from thence into the Intestines; where by means of their *Peristaltick* motion, some of them pass through the *Lacteals* in to the Blood, and the rest are thrown off by Stool.

And this I take it is the reason, why *Bath Waters* Purge most People by Stool at their first taking them. Thus the Stomach, a principal part in the Animal Oeconomy, being thus cleans'd and strengthen'd,

strengthen'd, must retain and digest whatever it receives the better, and convey its Juices the more Simple and Homogeneous to the Blood, and all the parts of the Body recruited with such kind Juices as are proper for their Nourishment. Besides, these Waters afford a simple Nourishment to the *Patient* at that time, the Fibres of whose Stomach are not able to bear any more compounded Food. This watry *Vehicle*, as I call it, passing through the *Lacteals* into the Blood, by its diluting *Quality*, renders all the *Juices* of our Bodies more fluid, promotes their *Circulations* and due *Secretions*, and thus sweetens them, and so becomes of universal Benefit to the whole *Animal Oeconomy*. By the help of these Waters, Obstructions in the *Viscera*, *Spleen*, and *Liver*, are remov'd, and the *Kidnies*, *Bladder*, and *Womb*, cleans'd and strengthen'd; and all Viscous, Phlegmatick Particles, or Gravel, diluted first, and after carried off, by the proper Passages *Nature* has design'd for their discharge. This diluting *Quality* it has, not only attenuates and dissolves the more tenacious and viscid Particles in our Blood, but digests and exalts them too, by promoting their Progressive and Intestine Motion, and so rendring them more

capable of recruiting the Animal Spirits, whose Elasticity or Spring was almost lost. There is one Advantage more by this watry Vehicle, and that is, that it dissolves the whole Compages of the Blood and Humours, whereby *Nature* is enabled to throw off by a natural Discharge, through the common Emunctories, what offends her, the more Phlegmatick viscus Particles by Perspiration and Stool, and the more Saline by moderate Sweat and Urine. These are the ways I humbly conceive *Nature* takes, when she co-operates with these Waters, in restoring not only weak Stomachs, and decay'd Appetites, but all other Chronical and lingering Diseases whatsoever, by supplying us with kinder and better nervous Juices, and more active Spirits. Now if these Qualities I have mention'd are in the Waters, as I fancy are too sensibly evident to be denied, then what more universal Remedy can we expect in such Cases? Most certain it is, that which carries off the too Viscous and Saline Parts that offended in our Blood, sweetens all the Juices that remain; that is, renders them more fit for *Animal Spirits*, and *Nutrition*, the chief design of *Nature*, and then all the Functions and Offices in our Bodies must

be

be Regular, the whole *Animal Oeconomy* kept in good Order, and *Health*, the greatest Blessing upon *Earth* supported and maintain'd. Thus we see here in one view, how *Dropsies* in the beginning, before the *Tone* of the Blood is too much weaken'd, and *Consumptions* before too far gone, and the Lungs are become too flabby, as also all *Cachexies*, *Scurvies*, *Catarrhs*, *Scabs*, *Itch*, all Fluxes whatsoever, and their Consequences, by drinking these Waters, may be removed, and a vigorous Life prolonged for a time.

4. And lastly, the Accidents that happen to such as drink these Waters, are next to be consider'd, and taken care of as there is Occasion ; and they are these following,
 1. Purging too much. 2. Sicknefs at Stomach. 3. Vomiting 4. Sleepiness.

1. *Purging* too much. These Waters then are not of the Purging kind, their genuine Operation being more properly to strengthen the Habit of Body, than evacuate by Stool. And here the most experienced *Sydenam's* (a) Rule is to be remembred, *Etenim hoc est firmiter retinendum, quod quoties cujuscumq; morbi Curatio Remediis corroborantibus innititur, Evacua-*

(a) Tractatu de Podagra.

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tiones qualescumque eæ fuerint efficiunt prorsus, (i. e.) where strengthening is required, all sort of Evacuations are hurtful. However 'tis not unusual for them in beginning to Purge of themselves, in some Constitutions, without any help of Purgatives at all; and this continues gently several Days together, with Advantage to the *Patient*, which I conceive happens thus; The Waters dissolve and carry off with them some vicious Juices and Salts that were in the Stomach and Intestines; and this proves a very great Relief to *Nature*, and renders the Waters much more effectual in the *Course* of them afterwards.

But if *purging* continues on, and the *Patient* grows weaker with it, 'tis then to be look'd upon rather from a *Colliquation* of the *Humours*, or some great weakness in the *Intestines*, than any *Natural* discharge, and so must be taken Care of by suitable Remedies in such Cases: For otherwise the Waters become injurious to the *Patient*, and he declines visibly every Day under their use, his Stomach and Appetite fails him more and more, and the *Malady*, be it what it will he drinks the Water for, increases on him daily. Now 'tis very obvious to common Apprehensions, that these Waters, not passing the

Lactéal

Lacteal Vessels, nor entring the Mass of Blood, cannot be supposed to be of much Use to the *Animal Oeconomy*. In this Circumstance, the *Patient* shou'd drink the Waters slowly, and in a small Quantities, or in Bed ; for drinking them fast, and in too great Quantities, often occasion their going off by Stool ; and the warm Bed may help, by promoting Perspiration. To prevent this, good warm comfortable things are best, as *bitter Wines*, *Gascoign Poudre*, *Coa Stone*, *Steel*, *Coral* *Cinnabar* of *Antimon*. *Diaphoret*. *Antimon*. &c. and sometimes a little *Rubarb* and *Diascordium* going to Bed, with a Cordial Draught to wash it down. By these the Tone of the Stomach may be recovered, and so the Waters in a little time perform their Office regularly. This *Accident* happens oftner to Women than Men, especially to such as are *Hysterical*, whose Stomachs are generally foul, their *Digestions* bad, and the Fibres of the Membranes of their Stomachs and *Intestines* so very weak, that they contain them but a little while, and they slip through them with little Alteration. When this happens to Men, 'tis for the most part to such as are very *Hypochondriack*, which is but a different name for the same thing ; and Vapours is the

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the common name to both these Complaints. Purging too much with *Bath Waters*, happens now and then, to Choleric Constitutions in Bilious Cases, from the *Acrimony* of the *Bile* irritating the *Intestines*, and stimulating the *Peristaltick Motion* of the Guts then at that time. If at any time they Purge strong Constitutions, and they feel little or no Inconvenience by its continuance, 'tis because the Body was very foul before, or that they were naturally accustomed to many Stools. And yet I have know some strong, yet gross Constitutions, so fond of this Operation of these Waters, that have continued them long enough to bring them into *fatal Dropsies*. This then is seriously to be consider'd, Whether *Nature* be reliev'd or oppress'd by the *Waters*, according as that appears to proceed in the use of them, or omit them for a time, in order to prepare the Body to receive and retain them to more Advantage. Take this then for a general *Rule*, if the purging continues, and *Appetite* and *Digestion* fail, the *Bath Waters* do more harm than good.

2. *Sickness at Stomach*. When these Waters pass out of the Stomach very slowly, the *Acrid* and Heterogeneous Juices are there mixed with the Waters, the
Stomach

Stomach is fuller and distended, and the Fibrils of its Members touch'd in more Parts than when Lank and Empty, which cause these unpleasing *Vellications* we call *sickness* at Stomach. This I have observ'd frequently in the Course of these Waters in the beginning, and sometimes has continued for a Fortnight, not without Pain and a continual Weight. This has chagrin'd some Men, and made them angry with the Waters, and almost Curse them, who with the help of gentle *Purgers*, some good *Ecphraëtick* warm Medicines, *Patience* and *Perseverance* in drinking on some time longer than ordinary, have met with their desired *Effects*, and gone away very well satisfied, and not at all repented their coming to *Bath*. Sometimes drinking the Waters on a foul Stomach, without sufficient Preparations, may occasion this disorder. A Dose or two of the Salts are not enough many times, to carry off the tough viscous Humours that stick close to the inward Coat of the Stomach, that nothing so gentle can reach them. Some of these depraved *Juices*, and their vitiated *Salts*, mixing with the Waters, not yet gone out of the Stomach, cannot but occasion *Fermentations*, and such irregular Motions, as cannot but affect

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affect it in such a manner, as to make one sick and uneasie under it. In such Cases a *Vomit*, or a *brisk Purge* or two in the beginning, is necessary, and ought not to be neglected. *Diureticks* also in this Case are of use, as *Tinct. Chalyb. Tinct. Sal. Tart. Flor. Sal. Armon. Pulv. diuret Fuller*, and such like Medicines as these, which, by attenuating the Humours, and irritating the Fibres of the Stomach a little, help to promote the *Peristaltick* Motion of the *Intestines*, and to convey, and carry on the *VVaters* out of the Stomach and *Intestines* into the Blood. I am inclin'd to believe, the not Passing of these *VVaters*, for the most part is chiefly owing to the Defects of the Stomach and Intestines, and their Foulness, or *VVeakness*, and very rarely happens from any Affections of the *Kidnies*. But when 'tis plain the *Kidnies* are in fault, from Gravel, or any viscous Matter, causing Obstructions there, that must be look'd upon as the Original Disease, and such Medicines as are proper in that Case must be added to the *VVaters*.

3. *Vomiting*, which is an higher degree than the former, and proceeds many times from the same Causes. This happens now and then, but not so often with these *VVaters* as Purging does. Several Persons

sons come to *Bathe* every Year, 'tis well known, with a Prejudice against drinking warm *VVaters*, yet find quite contrary *Effects*, nothing sitting easier on their *Stomachs*. Nay, 'tis most certain *Bath VVaters* will stay vomiting, and when the *Stomach* is too nice, and kecks at every thing else, these *Waters* will not only remain in them, but also refresh and nourish them as I said before. Tho' this falls out but seldom, yet now and then we see it in cold weak *Stomachs*, that abound in an *Acid Phlegm*, in this Case I have observed the *Patient* is very sick, and cannot be easie till he has discharg'd upwards by *Vomit*. And this more especially happens at this time, when the *Stomach* fill'd with *Waters*, which pass off but slowly, meeting with the depraved *Juices* there, which in this Case are more *malignant*, and *vitious* than in the last Article, so that the Irritation caused by them in the *Fibres* of the *Stomach* being greater, not only makes the *Patient* very sick, but also forces him to vomit also. In this Case gentle vomiting and Purging bitter *Wines*. Steel Medicines, bitter Drops, and good *Ecphracticks*, with the *Waters*, and a Glass of good *Madera Wine*, an hour at least before Dinner, are no contemptible Remedies. Now, as I said

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said before of Purging, so I say of Vomiting here in this place; to some Persons 'tis rather a Relief at first, than any ill Effects of the Waters, which must be considered in due time. Some I know vomit with these Waters, who have naturally small Stomachs; by taking off their Glass too fast. Such as are wise enough to know the Cause, cannot fail of their Cure.

4. *Sleepiness*, And this happens very often to *Water-Drinkers*, as well at *Tunbridge* as *Bath*. *Authors* tell us sometimes Waters remain in our Bodies, and are felt only by a Weight and Uneasiness in our *Bowels*, which argues they are not quite gone out of our Stomachs and Intestines: At other times they lie in the *Habit* of our Bodies, and are not felt at all; and sometimes they remain in our Blood Vessels. I am of opinion, when these Waters remain in the Mass of Blood, and are not carried off by the Emunctories, but fill and distend the Blood Vessels, that by pressing on the Cortical Part of the Brain, they hinder the Separation of the *Nervous Juice* or Animal Spirits thro' the hollow Fibres there, and cause this Drowsiness and Sleepiness, which goes not off till the Waters are discharg'd from the Blood. There are few that drink these Waters, but find

find this Effect of them some time or other. *Accidents* may occasion this now and then in all Persons, and therefore it must be some general Cause, and I know none more general than what I have assign'd, and submit to the Judgment of the Learned. In this Case Sleepiness is not to be indulg'd, by lying down on a Bed or Couch, because that Horizontal Posture carries more Blood up into the *Head*, which may cause Obstructions, Head Aches, and other Disorders in the Head. But a little moderate Exercise, and agreeable good Company, that's diverting, soon carries that off, without any Physick at all. Especially if as soon as they find it coming on, and they have not drank all, they take them in less quantity that day. In fine, this is a general Rule, That no Body ought to sleep till his Waters are pretty well gone off, that expects any Benefit by the Waters. There is one Complaint more to be added to these mention'd, which is, they make some that drink them, as they express it, *drunk*, which they sometimes fancy to proceed from the Strength of the Waters. This, I take it, is nothing but a *Vertigo*, which happens from a foul weak Stomach, and not from any spirituous Particles, such as the sulphurous Spi-

rits which are in Wine. *Vitruvius*, (*a*) I know, tells us, that there are *Fountains* which make those drunk which drink them, I am apt to think just in the same manner as *Bath Waters*, and all Waters will, that is, give the Drinker now and then a *Giddiness*, which they call *Drunkenness*.

Before I dismiss this Article of Drinking Bath Waters, I must observe also, That these Waters are also sometimes, and in some particular Cases and Constitutions, drunk cold. Some young sanguine Complexions I have known could not bear their *Heat*, but were forc'd to keep them till they were cold, to prevent a *Fever*, they heated them so much. In *Rheumatisms*, some *Gouts*, a *Diabetes*, and most Cases of the Lungs, they are better cold than hot, as Experience, our best Guide and Mistress, has inform'd us. I know very well by some 'tis affirm'd, these Waters are only good hot at the *Pump*. *Fallopins* (*b*) tells us, That all Sulphurous Waters that lose their Virtues, should be drank as near their *Spring* and *Head* as

(*a*) Sunt autem Fontes, quasi vino mixti, quem ad modum unum est Paphlagoniæ. ex quo etiam sine vino potantes fiunt remutenti, lib. 8. c. 3.

(*b*) De Therm, p. m. 241.

possible. *Baccius* (a) writes much to the same purpose. And *Dr. Baynard*, in his *Postscript* to *Dr. Floyer*, says, That the Bath Waters drank hot at the Pump were good for weak Stomachs. I might here entertain my Reader with a Dispute I had with a celebrated Physician upon this Subject, who would not allow by any means that these VVaters were good for any thing cold. But I shall at present pass over his weak and silly Reasonings on this Subject, because whatever other People may fancy, I am satisfied he is no Conjuror at Argument; and it looks a little insulting too, to enter the Lists with a Man that has neither the Arms of a Gentleman nor Scholar to defend himself. And this I do the rather, because I am very well assured by one that heard him say the next Year, That these VVaters were too hot for the Lungs; not at all considering that his Constitution was very much alter'd from what it was the Year before. But to return to our Bath VVaters, I acknowledge it has always been the received Opinion, these and all other VVaters are best near their Head, and are to be used with the same Caution that *Galen*

(a) Cap. 10. p. m. 69.

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prescribes Asses Milk to such as are Consumptive, as warm as possible, because the warmer 'tis, the greater is its Operation and Virtue. *Fallopious, Blondell, Fowet,* and all the *Authors* I have met with and consulted, are all of the Poets Mind,

Dulcius ex ipso fonte bibuntur aquæ.

And not only pleasanter, but more useful too : So that this is no new Doctrine, but always taken for granted and ever practis'd, where all other Circumstances concurr'd But that these Waters are good for nothing twenty Foot from the Pump, is such a fantastical Paradox, I am sure can never be made out by Argument, tho' it would be of very great Service to Mankind, and save a great deal of Expences every Year. Whoever will take upon him to maintain that Assertion, must prove also, and that very clearly too, that all the Virtues of the *Bath Waters* consist only in their *Spirit*, and thatt he other *Ingredients* are good for nothing which contradicting some thousands of Experiments cannot be true. The *Diluting* and *Diuretick* Qualities are in them, when the *Spirit* is quite gone from thence, have been of great use in the Cases foremention'd.

tion'd. In one word, I am of Opinion *Nature*, who has made every thing in Order, Number and Measure, has so proportion'd all the *Ingredients* of this so noble a Composition, as is altogether inimitable by Humane Industry, and that the Virtues of these Waters are not owing to any particular Ingredient, but to them all in consort together. This Doctrine, I take it, is pernicious too, and may in time be prejudicial to the Bath Waters, should it prevail, because it obliges many to take them at the *Pump*, that ought to drink them at home at their Lodgings. The very fatigue of the Walk is too much for some, and many Inconveniences attend it: Quiet and no Motion at all, makes the Waters agree best with others, and some I have known have taken them in Bed, because they never found they pass'd so well with them out of it. There are various Constitutions that require peculiar Directions according to the Circumstances that occur, and no general *Rule* can be laid down that will comprehend all of them. There is this one common Inconvenience I have observ'd often to happen to Water Drinkers, at the *Pump* in the Mornings in all Weathers, which is, in my Judgment, many

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times of no small Consequence to them in their Course ; and that is, that it exposes them many times to catch cold, and causes such cold Rheums and Catarrhs, as very much disturb the whole *Animal Oeconomy*, and render the *VVaters* of very little use while they last. I say then, upon these Considerations, 'tis not absolutely necessary in all Cases to go to the Pump, the Mischiefs that follow it are greater than the Benefit we propose by it; and a Glass from a Bottle brought warm from the Pump, carefully stoppt, and kept in a warm Cloth, drank at our Lodgings, differs not so much from one drank at the Pump, that we should run so many risks as may happen on this occasion. Besides, it would be strange to believe the *Trade* of sending these Waters to *Ireland*, *Scotland*, and all Parts of *England*, should continue so long, if they were not found by Experience to be useful at that distance. Upon the whole, I am not afraid to affirm by frequent Experiences I have had of the *Bath VVaters*, that they may be safely drank at some distance from the Pump, and cold too with success, rather than the Patient should expose himself to the Inconveniences mention'd, which are much less since the erecting a new Pump, and

and a convenient warm and dry *Gallery* to walk in ; but if nothing contradicts it, they are always best at the Pump, and these Circumstances are to be weigh'd with Caution and Judgment by the Water-Drinkers. For my own part, I must needs say, I suspect the *Bath Waters* warm in most Cases of the Lungs. I have only one thing more upon this head, and that is, when I said these Waters are better cold than hot in some Cases. I added these words, *upon the Place*, For certain it is cold *Bath Water*, of about half an hours standing, or little more, is better than it can be any where else of some Days and Weeks old, when it has not only lost its Native Spirit, but also acquired some degrees of Putrefaction. And thus have I ended my Article concerning the drinking part, and now am come to Bathing.

CHAP. VIII.

Of Bathing.

HAVING said so much of *Bathing* in my first Chapter in general, I come now to particulars. And I must observe as before in this place, that there are several *Baths* in *Bathe*, that are of different degrees of *Heat*, that render their Use the more general, for by these means they may better answer most of the various Circumstances of the Patients, that have occasion to apply to them, and 'tis of no small importance to the Patient which he uses. There is one thing more to be observ'd, and is of use to the Patient, whose Cure depends chiefly on *Bathing*; and that is, that he be prepared by purging and drinking the *Bath Waters*, and sometimes bleeding, before he *Bathe*, for at least a Week or 10 Days. It being necessary the Blood should be cooled and attenuated, as also the Stomach and Intestines cleans'd, in order to the successful Operations of *Bathing*, whereas such as rush into the *Bath* without these Preparations, with crude and foul Stomachs, are liable to

to Fevers, Head-Achs, Colds, &c. and so lose the Benefit of Bathing, for which they came. In discoursing upon this Subject, I shall, for Methods sake, confine myself (as I did in my Chapter of Drinking) to these *Heads*. 1. What time we must *Bathe*. 2. The manner of its Operation. And, 3. The common Accidents that happen to Bathers.

1. The time of Bathing is the Morning fasting Winter and Summer. In the Morning, because refresh'd with a Night Sleep, we are the better able to bare Bathing, and Digestions being compleated, we are not so subject to Accidents, that happen from Crudities, causing *Obstructions*, *Head-Achs*, &c. and Fasting too, because the natural Heat being sent outwards towards the Circumference, Digestion would be disturb'd, and the whole Animal Oeconomy put out of order, for want of a regular Dissolution of the Contents in the Stomach. This is taken notice of by *Juvenal*, as one of the Debauches among the *Romans*, that they went into their *Baths* soon after they had eaten,

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——— *Et Crudum Pavonem in Balnea portas
Hinc subitæ mortes, &c.* ———

Which he and *Persius* too, in his third Satyr, assign as the Cause of many Diseases and sudden Death. Fasting then before and in the Bath, is best for such as expect Benefit by Bathing, and a Glass or two of the Bath Waters warm in the Bath, is for the most part Refreshment enough for such as Bathe, which not only quenches Thirst in the Bath, but also promotes Sweating after. An hour in the Bath is often enough, but that and the Sweating after, and what Bath best, must be regulated according to the Patients Occasion and Strength. After Bathing between that and Dinner, one Glass of Wine, or a Dish of Chocolate, may not be amiss, when Sweating is over, and the Body restored to its natural Temper and Quiet, for before it will be apt to cause *Vapours* in the Head, and Crudities, and Indigestion in the Stomach. People that have occasion, Bathe in Winter too, when the Winds are not high, which often proves very troublesome to Bathers in the Summer-time as well as Winter, which Inconvenience might be easily prevented, as I said before, by a Cover'd Bath.

2. The manner of the Operation of Bathing upon our Bodies, which I take to be these two ways. 1. Then these Waters, by their natural and innate Heat, when we Bathe, cause a better Digestion in our *Blood*, by attenuating its Parts and promoting its intestine Motion and Heat. To this also, the Sweats after in Bed, contribute not a little by evacuating from all the Parts of our Bodies what was necessary to be thrown off that way. So that this must be of great use in all cold and phlegmatick Constitutions, whose *Native Heat* is weak. For it warms the Blood, strengthens the *Tone* of all the Parts, invigorates and mends the Body when out of order. Hence 'tis that *Palsies* are cured by Bathing in these Waters, tho' the Parts are relaxed, because they warm the Body and mend the Constitution, so that Nature being refresh'd, and strengthened, the Blood is invigorated, and the Tone of the Parts restored, that were relaxed before. So that these Waters outward and inwardly, not only relax, but have their contracting Quality too.

2. They soften all the Parts that are harden'd, and contracted by Cold, and discharge all the Heterogenous Matter that is impacted in the Pores of the solid

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solid Parts. Thus all Contractions of the *Tendons*, and all shrinking of the *Nerves*, as well as Paralytical Relaxations and Palsies, though contrary Diseases are cured by the *Bath Waters*: For by supporting *Nature* they become of universal Good to the whole *Animal Oeconomy*. In a word, these Baths are to be esteem'd not only for Pleasure, but for their usefulness in the Preservation of *Health*. For there is no form of Remedy so comfortable to any Body, which easeth Pain and Weariness more speedily and more effectually, and may be of Use to all Sexes, Ages, and Temperatures, without any Hurt or Inconvenience. I shall conclude this Head with that Saying of *Oribasius*, lib. 10. cap. 3. *Balneorum sponte nascentium multo major & Efficacior vis est, quam eorum quæ arte parantur*; that is, *Natural Baths* are much better than any Artificial ones whatsoever.

3. The common Accidents that attend Bathing, as well as Drinking, I shall reduce to these few. (1.) There happen sometimes, by irregular Bathing, *heats* over the whole Body, or else an inflammation in some particular Part, which are to be removed by Bleeding, Purging, Clyster, a cooling moist low Diet, and such Methods
as

as are used in the common Fevers and Inflammations. (2.) A very great *Thirst*, which may for the most part be prevented, by drinking some Glasses of the Waters in the Bath, and out of it afterwards, and also by forbearing Bathing for a time. (3.) Violent *Sweats*; these are a plain Indication, that Bathing is to be left off quite, or at least, that the most temperate *Bath* is best. Perhaps here cold Bathing may be of more use, than any Bath whatsoever, of any degree of Heat. (4.) A *lost Appetite*. If this happens only the Day they Bathe, it soon goes off again, being only occasion'd by the little Disorder and Heat the Body is put into that Day. But if it happens to continue, Bathing is best let alone for some time. (5.) And lastly, a *Costive Body*. These are all occasioned by the Heat of the Bath Waters, and for the most part owe their Original to irregular Bathing; either the Constitution is too Sanguine, or else the Person stays in too long, and fall under one Consideration; and that is of an Inflammation, or too great Heat of the Blood. A gentle Purge with the Salts and *Cremor. Tart.* will seldom fail to carry off this last Complaint. In fine, they have all one common Cause, the Indication is plain and the Cure easy.

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I cannot dismiss this Head of Bathing, without giving some Account also of *Pumping* frequently in use at *Bath*. This is either in the Bath, upon a particular part, according as there may be occasion, sometimes on the Head, Neck, Sholders, Arms, or Legs. And sometimes out of the Bath also. And this is called *dry Pumping*, which is usually done at Night going to Bed, the part kept warm wrapt up in Flannel. This is of very good use in particular Affections of any part, where total Immersion is forbid, and the Circumstances of Bathing will not permit it, which happen often. Pumping then requires the same Preparations that Bathing does, and is sometimes attended with the same Accidents, and so should have the same Method of Cure. This was formerly done by Buckets, and was like what the *Romans* called *Stillicidium*, and what the *Italians* meant by *Deccia*. But 'tis certainly much better by the Pump, whose continued steady Motion, without Intermission, is much the best, because it conveys an uninterrupted Warmth to the part, which is more agreeable to Nature, than when done any other way, with Intermissions. Both in and out of the *Bath* they use these Pumps,

as the Case requires, from 200 to a 1000, or more strokes at a time, which sometimes is too much; and then we meet with the Accidents as before, in Bathing. Thus I have finished my Thoughts concerning Drinking of, and Bathing in the Hot Bath Waters.

I shall only add a few Cautions concerning Bathing, and so conclude this Chapter. Let such as are of a very dry Constitution always avoid Bathing, as also all such whose Bodies are very much Emaciated, or have any Hectical Heats; such as are subject to Spitting of Blood, have a *St. Anthony's Fire* or Inflammation in any part of their Bodies, difficulty of Breathing, or the like. For in all such Cases Bathing will do much more Harm than Good.

CHAP. IX.

Concerning Diet.

AS to Diet in the Course of the Bath Waters, I must needs say, I have observ'd too much Liberty taken by a great many, that are at the Pains to come
to

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to the *Bath* for their *Health*, who ought, I think, to govern themselves with more Caution and Prudence on this Occasion, considering how short stay they make there, what a Prospect they have of mending their Constitution, and how valuable a thing *Health* is. The want of this Thought and Management accordingly, has, I am fully perswaded, oftentimes hinder'd the good Effects of these Waters, in many Persons, whose End in coming to *Bath* had been answer'd, had they been regular, and liv'd by *Rule*. I shall not enter into a strict Detail of every Particular relating hereto, it being impossible to adjust it to all *Cases*, what every one shou'd Eat or Drink, but shall only say in general, That there at *Bath*, as well as in all other places, the more simple the *Food* is, the better 'tis for the *Patient*; compounded Victuals, mixt Meats, or Varieties, high Sauces, &c. make too compounded and vitiated *Juices* in our Bodies, and by consequence complicated *Diseases*. *Mercurialis* says *, In Ancient Times Mankind was contented with little, and liv'd Frugally, and Sparingly, and then Diseases nor their very *Names*

* De Art. Gymnast. p. f.

were so much as heard of; high Feeding and dainty Dishes first introduc'd both. The more Simple then our Nourishment is, most certainly the better here in our Course of the Waters; and fresh Meats and such as are easiest of Digestion, agree best with the *Bath Waters*, and render them most effectual. As to Malt Drinks, I am of Opinion, where the Stomach and Intestines are weak and slippery, they ought wholly to be avoided and let alone, during the whole Course of the *Bath Waters*, lest their Fibres should be more relax'd by them, and the Waters pass off by Stool, and lose their proper Operation and Virtues. In this Case, Wine and cold Bath Water, or Water and a Toast put hot into it, is much better and more agreeable, beyond all Dispute.

As to Wine I take *Madera*, where it may be had true and good, to be the best to mix with Water, or to take a Glass of now and then alone as a Cordial, because of the driness it leaves upon the Tongue, the strength of its Spirit, and the little *Tartar* in it, which argues it a very good Stomachick Wine. Good *Sberry* or white *Lisbon*, all dry Wines, as they are called, because they leave a dryness upon the Tongue, are preferable next. As for

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Men us'd to *Claret*, if there be no Indication to the contrary, *Red Wine* moderately taken may be allow'd. Others, who are accusom'd to the use of Malt Drinks, and labour not under the Infirmities aforementioned, may use them here, especially at Meats, as they did before they enter'd on the Course of Bathing and Drinking, provided they use them with Discretion, and don't abuse the Liberty may be allow'd them

There is one thing more not to be omitted here, and that is, that these, as as all other Waters, are apt to create great *Appetites*, and make us very Hungry, yet we should not indulge our selves too much, nor overcharge our Stomachs at any time ; and slight Suppers and early, are much better than going to Bed upon a full Stomach ; for such as desire any Benefit by the *Bath Waters* ; for whoever drinks the Waters in the Morning, upon a full and indigested Supper, must not blame the *Bath Waters*, if they do not their Office that Day, as at other times. Upon the whole, what we Eat shou'd not only be of easy Digestion, but our Diet should consist of such Meats as afford not too much Nourishment or Moisture. Hence 'tis that roasted Flesh is better than
boiled,

boiled, and what is well Roasted, better than what is underdone: And by the same Rule, all Summer Fruits to be used with Caution, and Garden Stuff with Discretion, lest we nourish the Disease instead of curing it.

CHAP. X.

Some Questions Stated and Answered.

Question I. *Whether these Waters are good in the Pox?*

Answer. *Authors generally agree in this, That the Cause of this Disease is some malignant Corrosive and Contagious Ferment, which infects wherever it is received, all the Humours of the Body: Whether it had its Original at Naples, or (which seems most probable) was brought home from the West-Indies by some of Columbus's Soldiers, among the rest of the Commodities of that Country, I pass over as little to my present Question. Most Authors that have written of Hot Waters have argued this Point, who for*

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the most part, will hardly allow of either Bathing or Drinking them in this Case. *J. Bauhinus*, (a) forbids their being drank in this Case, because of their *Humidity*; this Disease requiring all drying Medicines. But *Dr. Guidot* has, in few words, answer'd all the Scruples on that Account, about the drinking part, when he says they operate, not only as *Purgings*, *Diureticks*, *Sudorificks*, and sometimes by *Salivation* too, but as great *Alteratives*; and then concludes, and that I think very justly too, That as such they must be of use in this Distemper.

As to Bathing, no Body hardly ever attempted it. *Baccius* (b) will not consent to Bathing in the Pox, because of the *Heat* of the *Waters*. *Fallopins* (c) tells us, He had seen several Cur'd by drinking, but then adds these words immediately after, *Non utatur tamen qui Gallico laborat aquis his Medicatis per insectionem*, which forbids Bathing altogether. *Dr. Guidot* does very faintly allow it, but says nothing to recommend it. Now with Submission to such grave Authorities, I see no just Reason to fear the Use of *Hot Waters*, either internally or externally, in this Case. For if the Cause of this Distemper proceed from

(a) *Histor. Font. Boll.* 289. (b) *De Therm.* lib 3. c. 5. (c) *De Therm.* c. 11.

very corrosive and vitious Humours, why may not these Waters drank, which are so great an Alterative, soften their Ferine Nature, assisted with proper specifick Medicines in this Case, I know not. And then after due Preparations made, the Blood Vessels emptied, the Humors in part evacuated, and Fever prevented, what should contradict Bathing, by dissolving and dispersing the Humour, and drying and consolidating all the Parts of the Body, will be hard for any one, I am apt to believe, to make out in any rational way of Argument. *J. Rhodius* tells us, (*a*) That he saw an inveterate Pocky Head-ach cured in fourteen Days, *stillicidiis aquæ Calentis Sulphuræ*, only by dropping hot Bath Waters on the part. And Monsieur *Aubery*, in his Treatise of the Baths at *Bourbon*, assures us, he saw a *Swiss* cured of the Pox, by sitting three Days together in the Hot Bath at *Vichy*. For my part, I know by my own Experience, I have seen both Drinking and Bathing in the Bath Waters, with proper Mercurials, more than once in this Distemper, succeed to Admiration, and never wou'd desire any better Vehicle or Diet Drink, for the proper Medicines in this Case, or easier and pleasanter Assist-

(*a*) Cent. 1. Obs. 75.

ance, than I can have from these Waters, externally and internally taken in this Distemper and shall make no scruple to say with *Dr Fouet* (a) upon this Case. *Son mal sera Incurable, sit ne cede a la boisson & aux Bains de ces Eaux.* If they can't be cured by drinking and bathing here, they will never be cured any where.

Question II. Whether Bath Waters are good in the Gout?

Ans^r. *Dr. Auberry* (b) commends *Bourbon* hot Waters drank for the *Gout*, after some universal Evacuations and between the Fits, for he says it does not only dissolve the Remainder of the Gouty Matter, but also dries and fortifies the Joints, but at the same time advises the Use of them on the Place, and that for a considerable time together, it being necessary in so stubborn a Case as the Gout is, to persevere a long time in the Use of the Waters. *Mr. Long* was a Demonstration of this, for he drank and bath'd for several Years together, and found great Benefit by both of them. Most certain it is of great Use to such as are well stricken in Years and Cripples, and

(a) *Bains de Vechy*, p. 27.

(b) *Bains de Bourbon*, p. 272.

labour under an old habitual *Gout*, but they are to be used with Caution in young and sanguine Constitutions. It will be easily allow'd me by all the Professors of Physick, that the *Gout* is a very nice and ticklish Distemper, the Cause of it is very latent, and the Cure must be as doubtful, where the Cause is not known. Dr. Sydenham supposes the Cause to arise from *Indigestion*, and a Weakness in the Stomach, and yet he is afraid of such Medicines as warm it, for fear it should be too hot for the Blood, so advises a strickt Diet and Exercise in the room of it, unless when the Stomach and Intestines are affected, and *Nature* is not able to throw it out upon the extream Parts, and then in that Case he allows of warm Medicines, such as are *Cephalick*, *Stomachick*, and *Ecphraetick*. 'Tis upon this Account also that *Liberatis*, a Learned and Ingenious *Italian*, in his Treatise of the *Gout*, advises drinking hot Sulphurous Waters, in this very Case.

(a) Every body knows that knows any thing of Physick, that such Constitutions are very nice, where the Stomach is naturally weak or cold, and Blood warm, which sometimes will happen, and that such Persons succeed not with Medicines so well as others

(a) De Podagr. Polit. p 196.

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that labour not under such Misfortunes. Upon this Account they may be of use in this Case to strengthen the Tone of the Stomach, cleanse it, wash off the peccant Salts by Urine, and procure a better Digestion without heating the Blood at all, their Heat being spent upon the weak and cold part of the Stomach, before it can arrive at the Blood. *Sic enim Contrariis medebitur intemperantiis absq; partium ex opposito laborantium læsione & fastidio*, as the same Author has it. For this Reason I have known many have drank these Waters with good success, especially in the Habitual Gout. 'Tis most certain a most stubborn Distemper, and has baffled all the Professors of *Physick* that ever have appear'd in the World. The Cause lies too deep for any Medicine or Method yet known to come at the bottom of it. *Hippocrates* in his Tract, *De veteri Medicina*, says, That we have in our Bodies, *sweet*, and *sour*, *sharp*, *bitter*, *insipid*, and infinite more Particles, that cause no Disturbance at all in us, whilst intimately mixt and temper'd all together, but are only hurtful when any of them grow too numerous, and are separated from the Mass. These different Particles in our Blood, are, I take it, the Seeds or Seminaries of all that

vast

vast variety of Distempers that afflict Mankind. Thus the *Gouty* or Constituent Particles of the *Gout* may remain in us some Years, and circulate with the rest without any Pain or Disorder, till they grow too numerous, croud together, and assisted by the Nitrous Air, and Cælestial Influences, disturb the Natural Mixture of the Blood so, that *Nature* is forc'd to exert her self, and cast off those loose and vitiated Particles into the Interstices of the *Joints*, by the *Glands* design'd by *Nature* for that purpose, to prevent *Fevers* and Disorders, that otherwise would fall upon the whole Mass, as my late Friend Dr. *Havers* has learnedly and ingeniously express'd it in his *Osteology* or Treatise of the *Bones*. And the same *Author* tells us this peccant *Humour* thrown off thus with the mucilaginous *Juice*, that serves to moisten the *Joints*, and render them the fitter for motion, is sometimes *saline* and pungent, sometimes *acrious* and *urent*, and most frequently an *Acid*, or in a manner corrosive Salt, and that it is discharg'd from the Blood by way of a *Crisis*, which pricking the Membranes there, is the Cause of that exquisite *Pain* that is almost intolerable in those Parts. He supposes also the *Paroxysms* of the *Gout* are longer
 or

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or shorter, as either of these may be the Cause, and concludes, I think very rationally, where the greater *Coagulation* or *Viscidit*y is in the vitiated *Mucilage*, the greater is the *Acid* that caused it, and always the longer the Fit, and the shorter from the *Saline* or *Acr*ious. Hence it is that Bitters, and Ecphrastics, comfortable warm Medicines are always of use in the Habitual or Chronical *Gout*, and long Fits. Now Acids internally taken must increase the peccant Humour, vitiate the Blood more and more, cause a greater Coagulation in the Joints, weaken the Habit of Body, and if pursued cripple the Patient before his time, as too many to my Knowledge have experienced, that have ventur'd on that bold and groundless Practice. Hence 'tis we look on the *Gout* as a healthy Disease to some, because as a Sink or Common thoar, it carries away such Particles by a critical Discharge, as were burdensome to Nature, by which the whole Mass of Blood is purg'd and sweeten'd, and other Diseases prevented. Provided the Fits come not too often, and the Constitution be not too much fatigu'd, and broken by the Distemper. 'Tis very observable seldom any Body has it very severely, that has felt nothing of it till past

fifty,

fifty, and then it is an Argument of *Vigour* and *Strength*, and we commonly wish such Joy, as it prognosticates long Life, which, for the most part, proves true. Dr. *Havers*, before mention d, supposes the mucilaginous Juice as the Cause of this Gout, is prepared by the Spleen, and from thence convey d to the Blood, and the *Antients* thought this very *Viscus*, the Spleen, was the Seat of *Hypochondriack Melancholy*. Now if we should consider the *Nature* of these two Distempers, and how they are often transmuted one into the other, both these *Hypotheses* may be true. For I have known several Instances, where the Hypochondriack Fits have, by good Management, gone quite off by the critical Paroxisms of the Gout, and *vice versa*, the Gout turn to the Hypoes. I remember a Gentleman told me once at the Bath, not long since, that fearing he should be Gouty as his Father was, to a very great degree, he got himself let Blood very frequently and plentifully upon his first Apprehensions of it, and so stifling his Gout, became one of the most Hypochondriack Persons I ever saw in all my Life. But I must not forget, I am not writing a Treatise of the Gout, so shall refer my Reader to Dr. *Sydenham's* Tract of the Gout, if he

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he covets any further Satisfaction in this Subject.

Question III. Whether we sweat in the Bath under Water?

Ans. I was once ask'd by a Doctor of *Physick* in the *Gross-Bath*, Whether ever I had made any Tryals, by which we might come to any Certainty what we lost in Weight in Bathing? I told him no, because I was of Opinion there was so much nicety required in such an Experiment, that I cou'd not see how it could be try'd any where, but in the *Bath* itself, by some Hydrostatick Engine contriv'd on purpose to weigh our Bodies there. For out of the *Bath* I thought it was altogether impossible to be so exact as was requisite to make such an Experiment satisfactory. Besides I told him I judg'd it hardly worth while to try, because I did not see how any part of our Bodies, that are under Water, could sweat with so great a Weight. Upon which the Doctor ask'd me how the *Bath Guides* then came to be so thirsty in the time of Bathing? To which I answered, I thought the reason of that was very obvious, and proceeded from their being a
great

great while in the Slip, where they are almost out of the Water, and very liable to greater Sweats than when their Bodies were warm, and the Weight of the Water remov'd. That they were also much expos'd while in the *Bath*, by wearing no Waistcoats that stick close to them, nor keeping their Bodies under the Water as the Gentlemen do when they Bathe. And here our Philosophical Conference ended. Give me leave to prosecute this Argument a little further, which I shall endeavour to make probable from Authority and Reason. Dr. *Blondel* in his Description of the Baths of *Aken* in Germany, says (a) in *Balneo Corpus circumquaq; ambitur ut non datur difflationi locus*. And *Aristotle* in his Problems, (b) *Membra aquæ calidæ immersa non sudant estiamsi ex se ipsa recalescunt*. I know the learned *Sanctorius* says, (c) *Lavacra actū Calida juvant perspirationem*; which, I conceive, does no way contradict the Notion at all, that our Bodies do not sweat under Water, there being a very great Difference between Sweat and Perspiration, as Dr. *Cole* has very learnedly made out in his Treatise *De insensibili perspiratione*, p. 74, 75. Perspiration then may continue in the *Bath*, and be somewhat greater too, be-

(a) Descrip. Aq. Aquisg. (b) Sect. 2. Cap 42.
(c) Sect. 2. Aph. 2.

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cause its Parts are very fine, and their force may be increased by the warmth of the circumambient Water, but not obstructed at all. Whereas at the same time the Pressure of the Water, on the Habit of our Body, may, in all probability, be great enough to contract the *Cutaneous Glands* there, and so prevent the Separation of any Particles from the Blood by them, *Vid. Bellini de Sang. Mission, Propos. 8.* By Experience we know very well, that Men not used to Bathe in hot Water, can continue in the King's Bath, the hottest of all, two or three hours together, with little Thirst all the time of their Bathing there, and sweat very plentifully afterward, in their Bed.

Now our *Reason* tells us, 'tis hard to believe any Body could bear so great an Evacuation as Sweating is, so long together. And this Argument will have more Strength and Force, if we do but consider, how in the *Bagnio*, when nothing hinders, and our Bodies are free, where we Sweat very plentifully, we grow very Thirsty, and soon Faint, by reason of the Expence we are at from Sweating. So that in about half an Hour we are forced to quit the hot Room for a cold one, in order, by degrees, to come to our Temper

per and Cool again. I am of Opinion farther, which I humbly submit to the Learned, that 'tis impossible to come to any certain and positive decision of this matter, unless we can be sure, that no parts of the *Bath Waters*, while we Bathe, insinuate themselves through our Skin and Vessels, into our Blood. And till we know how to account for this, I cannot see how we can conclude any thing about our Sweating or Perspiration in the *Bath Water*.

Bellini, Sang. Miss. p. 151. Thinks it very plain, that in Bathing, the *Waters* do not only penerate the Skin, but that they enter deeper into the very Blood. So that the solid Parts are not only softened, but the Blood is also diluted, cool'd, and attenuated, and its Circulation and Perspiration thereby promoted. The Divine *Hippocrates* affirms, that our Bodies are inspirable as well as expirable, when he says, Ἐκπνοοῦν καὶ εἰσπνοοῦν ὅλον τὸ σῶμα; and *Galen* in his Comment upon these very words of the old Gentleman, says, 'tis most probable he meant that the *Arteries* in the Habit of our Bodies received in *Air*, which by them was convey'd to all the Parts of our Body. *Cæsar Zarotta*, a Man of admirable fine Learning, in his *Medica Marti-*

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alis, (a) has this Expression. *Alterat vero Balneum quatenus refrigerans est, intemperiem emendando suum tollendo, per Corporis meatus intro assumpta Aqua.* These Authorities and Experinces put together, make my Argument more plausible. And for this reason, as I promis'd before, I ventur'd to say the *Cross-Bath* was preferable to the *Queen's Bath*, though near of one *Heat*, because the *Cross Bath* hath *Springs* of its own; and its proper *Native Spirit* is of more use to us in Bathing, if it penetrates into our Blood, as was prov'd before it does, than that which has no *Springs* of its own, but is derived from another, and brings with it all the Filth occasion'd by such as Bathe there. If this Doctrine be not allowed, that Waters may penetrate thus, I would fain know what *Emolient Fermentations*, *Oyntments*, bitter *Cataplasms* to kill Worms, *Artificial Baths* of several kinds, *Relaxers*, *Comforters* and *Strengthners*, *Epi-themata*, *Moistners* or *Anodines*, or things applied to any part, viz. To the Region of the *Kidnies*, *Liver*, *Spleen*, *Navel*, &c. Or what will it signify, whether the Baths are made of Oil, Milk, or Waters, if nothing but the *Heat* is to be consider'd? And how comes a *Bath* of Wine to exhile.

raet and refresh our Spirits, more than common Water or any thing else. *Abishag*, I am perswaded, kept *David* alive, not only by the bare natural Warmth of her Body, but also by the Moisture and Nourishment he received at the Pores of his Body from hers, which cherish'd and refresh'd him. And this, I take, was the Case of a worthy Patriot of our own Country, who I am very well assured, about twenty seven Years ago, was reduced to so low a Condition, and so very weak, that he abhorr'd even Kitchen Physick, and yet was restored by a Couple of *Buxom Girls* out of the Country, laid warm to his sides in Bed: He is alive to this Day, and hearty for his Age, being at this time above 80 Years old. *Magni refert quibuscum dormis* Thus Garlick applied to the Soles of the Feet will soon be tasted in the Mouth. All which I think sufficient to prove, that our Bodies may be as well Inspirable as Expirable; that is, there is a Magnetism in Bodies; and if so, 'tis probable we may receive such Quantities of the Bath Waters into our Bodies by the Pores, when we Bathe, as may be greater than what we lose by Perspiration, and the Sweat of those Parts, which are above Water, or at

least it may be enough to puzzle any over nice Inquirer into the Matter.

C H A P. XI.

Of the Vertues of Bath Waters in particular.

IN my foregoing Chapters, I have given some short Hints of the Use and Virtues of *Bath Waters*, Externally used or Internally taken: I shall in this entertain the *Reader* with some certain *Cases*, which most frequently occur at *Bath*. These Waters then are both ways applied, of a strengthening, cleansing, attenuating, opening, loosening Nature. They move *Urine*, sometimes cause *Stools* gently, and also *Sweat*. They Comfort the *Nerves*, warm the Body, and are good in all cold Constitutions, and the particular *Cases* following.

1. In *Scorbutick Rheumatisms*, and old wandring Pains in any part of the Body, by Bathing and Drinking both, when the Pains are not attended with any Feverish Heats. By drinking these Waters, with
due

due Preparations by proper Evacuations, the Stomach is in the first place cleansed, the Blood diluted and attenuated, and the Scorbutick Salts discharg'd from the Blood by *Urine*. By Bathing, the Pores are open'd, and the Salts that lodg'd in the Interstices of the *Muscles*, are thrown off by *Sweat*. The *Catarball Rheumatism* is attended with a Fever, where the Blood is very fizy, admits of drinking the Waters only, and that not till the Violence of the Fit is over, and the Fever gone, to carry off the Relicts of the Disease, sweeten and attenuate the Blood. And here, if I am not mistaken, it may be admitted as a general *Rule*, That where the Blood is fizy, Bathing must be used with Caution. By drinking then of these Waters only, I have often known the remaining Pains of this sort of Rheumatism very successfully carried off, and the Weakness in the *Joints* also, without any help by Bathing at all. The Reason that forbids Bathing in this Case, I take it, is because all the fizziness and viscosity of the Blood is not quite gone, which renders it apt to inflame again, upon so great a Heat, as that of Bathing.

2. In *Palsies*, as well from Repletion, as Inanition. I remember about twenty

five Years ago, when I was at *Bath*, before the Fashion of drinking these Waters obtain'd so much, *Palsies*, *Convulsions*, *Contractions*, *Rheumatisms*, *Lameness* of all kind, *Womens* and *Childrens* Cases, were the common Complaints there to be met with, and for the most part the unhappy Occasion of the Resort there every Year for Bathing chiefly. Bathing then was used, and that very successfully too in *Palsies*, as Dr. *Pierce* in his *Memoirs* has from his own knowledge of the Fact, inform'd the World. But of late I find, since the Use of the *Cold Bath* hath, from some Successes it has met with, been encourag'd by some, Bathing here in this Distemper is laid aside by such as will not easily allow, that Hot Baths have their contracting, strengthening Faculty, as well as the Cold. 'Tis true, 'tis a very stubborn Case, and many times requires more than one Summer or two to compleat the Cure. And certainly, I think, 'tis worth while to compound, though at a dearer Rate, for the Resurrection of a mortified Limb, or two. Not that I deny the Use of cold Bathing, but what I said in my former Essay on the Bath Waters, I must now repeat, That Drinking, and Bathing here with

with proper *Remedies* too, are the best Preparative in the World for the *Cold Bath*, in this Distemper, and many others.

Last Year at the *Bath*, a Doctor of Physick told me, that he knew one in a Palsy try'd the Cold Bath a long while to no purpose; but coming to *Bath*, drinking and bathing there for some time, and using the *Cold Bath* afterwards, it had its Effects. The Blood being sweeten'd and invigorated, the Skin cleans'd, and the Pores open'd, no wonder after all these Operations, and Discharges, the *Cold Bath* succeeded better than at first.

There is a sort of a Palsy occasion'd by a bilious Cholick, of which under that Head I shall say more.

3. In the Colick, I mean the Bilious Colick, from the Spasms and Convulsions of the Coats of the Stomach and Intestines. In this Case the Peristaltick or Progressive Motion of these parts, which serve for the Protrusion of their Contents, is diverted by the irregular Contraction of their Fibres, which at this time cause those exquisite Pains this Distemper is attended with, as also those violent Vomittings, Costiveness, and the like. Now all these severe Symptoms, to say nothing

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at this time of the Iliac Passion, which is the Excess of this Distemper only, I am inclined to believe are occasion'd by the Viscidity and Bluntness of the Bile, or some Obstructions about the Gall Bladder, or common Duct. In this Case I have frequently known Bathing, and Drinking very successful, to such as have been subject to Cholick fits, not used in the Fit, but in the Intervals, in order to carry off the Cause, and as a Preservative from returns. These Waters then, by cleansing and warming the Bowels, diluting and exalting the Blood and Bile, promote the Peristaltick Motion of the Guts regularly, the Chyle is duly separated and secreted through the Lacteals, and the Excrements convey'd by Sieve as they ought to be, and all the Symptoms and Complaints cease, and are at an end. In order to make the Waters more effectual, we use gentle Purging now and then, and some bitter and nervous Medicines, as necessary in this Case.

In this Cholick which *Citesius* calls *Colica Pictonum*, or *Biliosa*, describing very particularly all its direful Symptoms that attend it, there often happen in the *West-Indies*, and sometimes here in *England* too, at the end of this Distemper, when the

the Symptoms are all gone off, and the Patient thinks himself reliev'd, then of a sudden the Matter being translated to the Head, they become Apoplectick, Epileptick, Convuls'd, and Blind, which if they survive, the Matter being thrown off on their Hands and Feet, they remain Cripples for many Months, not able to help themselves, Stand nor Walk. In these uncomfortable Circumstances I have known Bathing of great Use, by restoring them to the Use of their Limbs; which, I think, may serve to make good my Argument in the Article concerning Palsies; that Hot Bathing is indued with a Corroborating, as well as relaxing Virtue, and that its Use, in that Distemper, ought not to be altogether laid aside.

4. *Consumptions*, if taken in time, and in the beginning, before gone too far, the Lungs not too much weaken'd and flabby, and the Tone of the Stomach not spoiled; and then these Waters, not drunk Hot at the Pump, but suffer'd to stand a little, till rather colder than hotter than our Blood, which in this Case can bear no Impressions of Heat, but to its disadvantage. By the help of these Waters a very few Pectorals, Testaceous Powders, and Opiates, the Hectical Heats,

and Night Sweats are effectually remov'd in a little time. They are, without doubt, much safer than our common *Pectorals*, which in my Opinion ought to be used with great Caution and Judgment, for the most part, as they weaken the *Tone* of the Lungs and Stomach too.

5. In an *Asthma* or shortness of Breath. This happens in Plethorick Constitutions, and a viscid Blood, which passes not freely through the small Capillary Blood Vessels in the Lungs, or from a Catarrhal De-fluxion upon them. By both these the *Bronchiæ* or Wind-Pipe is straitned, so as not to admit *Air* enough for the Blood. Now *Bath Water*, the Natural Balsamick and Dissolvent, soon divides the viscid Blood, after breathing a Vein as there may be occasion, and enables it to pass the small Capillary Blood Vessels, and make room for *Air* so necessary an Ingredient of *Life*. Spasms or Convulsions in any of the Organs of Respiration, may be the Cause of this Malady too, from a vitiated *Nervous Juice*. In which these Waters are proper, as great sweetners of the Blood and Nervous Juice.

6. In *Dropsies* from a Weakness and Indigestion in the Stomach, so that the Chyle and Nourishment, when brought into the Blood

Blood, is Crude and unfit to be assimilated with it, and made Blood, and so is thrown off upon the Muscular Part in the Habit of the Body, which we call an *Anasarca*, or else is discharged into the Cavities of the *Breast* or *Abdomen*, and then we call it an *Ascites*. In both these Cases *Bath Waters* drank, Purging now and then, with good Stomachicks, Antiscorbuticks, Diureticks, and Bathing between Whiles, very great Cures have been perform'd to Admirati-on. By them the Blood is cooled, and its Tone, so much weaken'd, restored. By their Diuretick Quality the Kidnies perform their Office, in plentifully separating of Urine, and the Stomach recovers its Digestion, and the *Chile* is assimilated into the Blood. What I say here of *Dropsies* is true of *Cachexies*, or ill Habits of Body, from a viscid cold Phlegm, being much from the same Cause, and often the occasion of Dropsies, the same Method may serve both with very little difference.

7. In the *Faundice*. This Disease, I take it, proceeds rather from a too viscid, depressed, and almost vapid Blood, than from any defect of the Liver; the Obstructions in those parts, at this time, are rather the Defects than the Cause of this Distemper. But let the Cause be what it will,

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will, the Bile is certainly in this Case very thick and dull, not fit for the uses Nature design'd it. In this Case the Patient grows very costive, because the Bile, depriv'd of its Salts, cannot irritate the Intestines to protrude their *Fæces*, and cause Stools; the Urine also is very high colour'd, because saturated with the Bile, which used to be separated from the Blood by the Liver, and the Skin all over dy'd yellow, from the vitiated Crasis of the Blood at that time. Hence want of Appetite, frequent Faintings, Heats and Cholicks. In such Circumstances, nothing more proper than Bath Water, whose cleansing, opening, dissolving, diuretick and strengthening Qualities, are admirably well adapted and suited to the Cure of all the Symptoms mention'd.

8. In the *Scurvy*. This word has a very large Acceptation, and is often taken for any ill habit of Body, or Chronick Distemper. But I shall confine my self at present to the too saline State of the Blood, whether Acid, Acrious, or Corrosive. In this Case the Patient has frequent Pains all over, the Saline Particles in the Blood being thrown off upon the Nervous Parts, prick and velicate them, and cause those Pains, Spots and Eruptions

ons in the Skin. The Gums being a tender Flesh, are eaten away, so as to leave the Teeth almost bare and loose. The Urine is very high colour'd, because impregnated with too much Salts, that are discharg'd there from the Bland, which abound with it at that time. There are a great many more Complaints, too many to be nam'd at this time, but these are the Chief. Now the *Bath Waters* drank for a considerable time, by washing off the Salts from the Stomach and Intestines, the *Fomes* or Primary Cause of this Disease, together with a regular *Diet*, moderate Exercise, and proper Medicines, cause very great Alterations in such Constitutions, by sweetning the Blood, and all the Juices in our Bodies, and rendring them fit for Nourishment

9. *Loss of Appetite.* Let the Cause be what it will, whether from a weak or impoverisht Blood, from any acute or long chronick Disease, so that the natural Dissolvent or *Menstruum* in the Stomach is depraved, or by any viscous, sour, or sharp Juices, it be so vitiated as not to affect the inner Coat of the Stomach with that pleasing Pain called Hunger, its Esurine Quality being lost: In this Case nothing in Nature more proper, which, by its dissolving

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solving, cleansing, absterfive Virtues, and partly by its own *Esurine Salt* which it has in it, restores Nature in this Case almost miraculously when all other Things fail. This may happen also from a Relaxation of the Coats of the Stomach, in which these Waters are of use too, by invigorating the Blood, and rendring the Animal Spirits more active, and restoring it to its proper Tone again. Thus Bath Waters having these good Qualities in them relating to the Stomach, stop Vomitings, cure all Heart burnings, whether from an Acid or a bilious Cause, Indigestion, Pain in the Stomach, or any other Chronick Indisposition of that part.

10. All sorts of *Cutaneous Diseases*, as Itch, Scab, and Leprosie, by washing off those malignant Salts that occasion this Malady taken inwardly, and discharging them by Sweat by Bathing, the Sulphurous Particles too in the Water entering into the Skin, altering those Salts by their Balsamick Virtues. And I am of Opinion, if any fail of Relief in any of these Cases by these Waters, 'tis because they allow not time enough for their Cure, or else too lazy, and loth to take Pains, or cannot keep to a regular Diet, and

and these are absolutely necessary in such stubborn Cases. And what I here observe concerning the Leprosie, &c. I must apply to the King's Evil, which requires as long use of Bath of Waters as any of the Cases last mention'd do; without which, and a very regular Diet, 'tis in vain to expect much Relief.

11. In *Gravel* and *Stone* in the Kidnies. This proceeds from the grosser Parts of the Blood, obstructed in the narrow Pipes in the Reins, thro' which the Urine is separated, which in time becomes either Gravel or Stone. So that these Waters, by their thinner and humid Particles, are proper to dilute the Blood coagulated in the Kidnies, as diuretick to open the Obstructive Tubes where this Matter is deposited, and by its Sulphurous and Balsamick Parts, to soften the Fibres of these Tubes, and render them more slippery, and so dispose them to discharge the Gravel or Stone thro' the Ureters into the Bladder, in order to be carried off with the Urine.

12. In *Vapours*. Tho' generally apply'd to Women, yet a Distemper incident to both Sexes, from a Weakness in the whole Nervous System, and a Disorder in the Animal Spirits. Now, tho' I cannot say I have seen any in this Distemper

stemper perfectly cur'd, yet I have known
 a great many of both Sexes, with some
 few nervous Medicines, much reliev'd, and
 mightily mended in their Constitution e-
 very Year, by the use of these Waters.
 To these I might add many other Disea-
 ses, not spoken to particularly before, tho'
 included under some of the Heads men-
 tion'd, and curable by the Bath Waters.
 As Coldness and Pain in the Head, Epi-
 lepsies, most Diseases of the Eyes, Bath
 Water warm from the Pump, being one
 of the best Washes in the World for the
 Eyes and Eylids. Deafness and Noise in the
 Ears, Running of the Ears. Palpitation of
 the Heart. Sharpness of Urine, Wounds
 and Ulcers externally and internally, Piles,
 Numbness in any part, Bloody Urine, Stran-
 gury. It would be too tedious at present
 to enumerate all the Diseases curable by
 Bath Waters, internally taken or exter-
 nally used. I am very well satisfied I
 might have brought in any Chronical Dis-
 ease that is curable. I have singled out on-
 ly these few only, as the most remarkable,
 and most frequent to be met with at Bath.
 Now if the Bath Waters are so very pro-
 per a Medicine, in such capital Cases I
 have mention'd, where Nature is so very
 much oppress'd, how rational is it to con-
 ceive

ceive, in Cases where she is less griev'd, that they must succeed better. I have known a great many come to the Bath tired with the use of Shop Medicines, to no manner of purpose at all, that have swallow'd these Waters with abundance of Delight and Pleasure, and by the help of little Physick, have succeeded to Admiration. They are not only the pleasan-test Vehicule for such Medicines, as are proper in any chronical or lingring Disease, but more useful in any of the Cases mention'd, than any of the most artificial Diet-Drinks out of the Apothecaries Shop, no Composition known being so universally good in so many Constitutions. I am not ignorant the Patients Disgust of Physick Doses is little minded in the Cure of Diseases by many, tho' I can't help being of Opinion, more Cures would be done by the Professors of the Medick Art than are, were there as much regard had to the Palatableness of the Medicine, as to its imaginary Virtues, where it may be done.

C H A P. XII.

Of the Diseases of Women.

D*I*seases of the Body, and Disorders of the *Mind*, are the *Natural Calamities* that attend Mankind, no Body is ever quite free from them, and he is only the happiest, that meets with the least share of them in this World. The good Things of this Life, we too often lose the Benefit of, because we know not how to make a right use of them, and like *Children* are fond of such things often as would hurt us if we had them. Thus little else but the *Disport* of *Nature*, we come into this World for our Ease, and are seldom easie till we are out of it, in our whole Voyage to t'other World. This made old *Democritus* laugh and *Heraclitus* cry, when they saw and observ'd not only the Miseries but the Follies of Mankind, so eager in the pursuit of *Trifles*. Now if this be the general View of *Nature*, it must be allow'd the *Fair Sex* are much more liable to *Natural Infirmities* and *Diseases* than Men are. They are of a much finer Composition and tender Con-

stitution

than Men, whose Nerves are more tense, and their Original *Frame* and *Make* much more robust and strong. Besides they are not only liable to all the *Diseases* Men are, as they have both one *Common Nature*, but by reason of those *Parts*, *Nature* has design'd for the Organs of *Conception* and *Generation*, they are subject to infinite more. As such, tho' the most perfect of the *Creation* in all other Respects, they can't be said to be so happy as Men, and ought to be look'd on, not only as the Subject of our *Pity*, but also our utmost Care to make them easie. I shall begin in the first place with the *Maiden Disease*.

1. The *Green Sicknefs*. This happens to Women about the Age of Fourteen, from an *Acid*, Viscid, Phlegmatick and Effete Blood, having few or no active Spirits in it, for want of its due Fermentation. Hence come Obstructions in the *Womb*, and a Stoppage of the *Courses*. Sometimes the Capillary Blood Vessels in the *Womb* are the Cause, tho' not so often as the former, and then the Blood thus confin'd, finds it way thro' the Nose for the most part, Mouth or some other Parts of the Body. And this may happen too, when the Cour-

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ses

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ses are stopp'd after Conception, and is a very good sign and token of it. So that the Blood from its depraved Crasis is more frequently the Cause of these Obstructions, than from any Defect of the Blood Vessels of the *Womb*. This Case then is plainly *Cachectick* and will seldom fail of a Cure from these Waters with gentle *Purgers* and *Aperients*. For they, by their diluting, attenuating, strengthening and invigorating *Nature*, will divide the viscid Particles in the Blood, attenuate the whole Mass, volatilize and rouse the Fermentations, the better to enable the Blood to circulate thro' all the smaller Vessels, open Obstructions of the *Womb*, and promote its regular Evacuations and Discharges.

Under this Head I shall mention a Species of this Distemper, which happens now and then to young *Girls* between 9 and 14. In which the *Patient* has a desire to eat *Chalk*, *Oatmeal*, *Lime*, *Earth*, and such like Absurdities, from a vitiated Ferment in the Stomach, as also a depraved Fancy that makes them long after such Trash. This may be called *Pica Virginum*, being much the same with that which sometimes afflicts Women with Child, in which Case the Waters of Bath both

both inwardly and outwardly may be of use.

2. *Uterine Fluors, White and Red.* The first is occasion'd from a Weakness in the Glands of the Womb, from whence issues a white phlegmatick Matter, which is very troublesome to the Patients, and weakens them very much, if it continues long upon them. The Matter sometimes changes its Colour to green, yellow and dirty, from a mixture of Salts with it, which are often sharp enough to corrode the Parts and ulcerate them. The second, *viz.* the *Reds*, which happen to Women for the most part, that have had many Labours or frequent Miscarriages, by which means the capillary Blood Vessels of the *Womb* are so wrakened, they cannot contain the Blood its full time. This is a severe Affliction to Women between the Age of 40 and 50, for I mean only *that* in this place, and not what relates to younger Persons, from the Briskness of their Blood. Now both the *Whites* and *Reds* too require almost one and the same Cure, and *Bath Waters*, with a very little help, are almost Specificks in these two Cases, and rarely fail, if rightly manag'd, and the *Womb* not grown too *Schirrus*.

3. *Barrenness*, the Causes of which usually proceed from a cold and moist Womb, which renders it too weak for Conception. I need not enlarge on this Head, it being so well known to every body, that a great many Women, who come to Bath for the common Cause, have become fruitful from the use of these *VVaters*, to the no small Joy of many Families that almost despair'd of Children before, by warming, strengthening, cherishing, cleansing the Womb, and discharging the moist and viscous Particles, that render'd it incapable to perform its Office of Conception. Miscarriages are many times after the same manner to be accounted for, being I think from the almost same Cause, and so require much the same Method of Cure.

Upon the whole, nothing so kind a Course of Physick to the Female Sex in these Cases mention'd, which are peculiar to Women as I said before, as bathing and drinking *Bath Waters*. 'Tis an easie Method, and more adapted to their soft and tender *Natures*, than any artful Compositions whatsoever, by cherishing, warming and drying their too cold and moist Constitutions. To these give me leave to add by way of an *Appendix* to this Chapter, Childrens Diseases, as *Crookedness*,
Rickets,

*Rickets, Weakness in their Limbs, Big Bel-
lies, Contractions.* Now Children that are
so very averse to Physick, not so proper
neither for their too tender Natures and
Constitution, seldom fail of Benefit of the
warm Bath, which strenghtens and enli-
vens them every day, and preserves them
from being Criples, which could neither
stand nor go from a Weakness or Relaxa-
tion of their Limbs, such Cures being ve-
ry frequent at the Bath. And not only in
Weaknesses, but in Contractions too, the
warm Baths having a Relaxing as well
a strengthening Quality in them, as be-
fore. Whoever desires farther Satisfaction
concerning the Virtues of Bath Waters,
both by bathing and drinking, may con-
sult Dr. Pierce's Memoirs of Bath Waters,
a very useful Treatise on that Subject.

C H A P. XIII.

*Of the City of Bath, and
its Situation.*

IN the next place, give me leave to say something of the *City* it self and its *Situation*. I know very well, at first sight, a great many will be apt to condemn the Place as unhealthy, because it stands low, and is encompass'd all round with high Hills, which hinders the free Passage of the *Air* to the *Town*, and by Consequence must be very injurious to the *Health* of the Inhabitants. That *Air* is a very great Ingredient of *Life*, without which we can subsist but a very few moments, and that its free Passage into our Blood is also absolutely necessary to preserve our *Health*, must be allow'd. But there are other Considerations to be weigh'd before we come to a final Decision of this Matter, for 'tis not always the healthiest Situation where the *Air* is most free and unconfin'd It may bring with it some *Particles*, rais'd at a distance from us, according to the Nature of the Soils it passes over, that may be

be hurtful to our Constitutions, prey upon our *Humours*, and cause *Diseases* in our Bodies. Now nothing is a more likely Cause of *Pestilences* or Epidemical Diseases than the *Air*, being now and then impregnated with noxious Vapours from some Mineral *Effluvia* out of the Earth. And not only Pestilential *Constitutions*, but from the Subterranean Steams they bring with them, of almost all the Diseases that afflict Mankind. The Honourable Mr. Boyle is of this Opinion, when he tells us, (*a*) *That he thinks 'tis probable, that in diverse Places, the Salubrity or Insalubrity of the Air, consider'd in general, may be in a good part due to Subterranean Expirations.* If this be true, why may not the *Air* in some Places abound with Particles from Subterranean Mineral *Effluvia* that may be of a *Benign Nature*, and prolong *Life*? For my part, I am inclinable to believe, That that *Earth* that can impregnate *Waters* with such *Balsamick, Healing and Agreeable Ingredients*, as these hot *Waters* have, may also send up into the *Air* such benign *Effluvia*, or *Exhalations*, as may have a kind Influence on our Constitutions, and be the

(*) Of the Salub. and Insalub. of the Air, p. 4.

Cause of *Healib*; for as some Exhalations are noxious, why may there not be others that may be wholesome, when by the *Air* communicated to our Blood? And moreover, if it be true what Mr. Boyle says, (*a*) That *Subterraneal Effluvia's* contribute to *Endemial Diseases*, not only as it vitiates the *Air* we breath in, or are immediately touch'd by, but as they may impregnate or deprave the *Aliments* Men feed on, as Water, Beer, Herbage, Flesh. Why may not other places by the Kindness of their Soil, or Mineral Substances in the *Bowels* of the *Earth*, impregnate our *Aliments*, with such *Balsamick* Particles, as may render them more wholesome, and of better Nourishment? But this being an Argument, a *Priori*, I shall insist no more on it but as a bare probability. There being a better Argument for it, a *Posleriori*, which I lay a greater stress upon, viz. That I have beheld more healthy People in that *City*, and the Neighbouring *Villages* in the *Bottoms* near *Bath*, than I have ever heard of any where else. Besides, 'tis worth our Observation to inquire how few die every Year of those that come down to *Bath* for Air,

many of which are almost dead when they arrive. As also how few Accidents we hear of from such *Numbers* and *Crowds* of *People* from all sorts of *Airs* and *Counties*. How kind all *Endemial Diseases* are when they happen in that Town, as Small-Pox, Fevers, and the like, very few dying in them; and I fancy when any one has fully consider'd these things, he will be apt to think it reasonable with me, to attribute it in part, that the Place is so healthy, to the benign and *Balsamick Emanations* or *Effluvia*, which from the *Bowels* of the *Earth* stream thro' the *Air*, and so are communicated to our Blood, and are the Cause of *Health* and long *Life*. And not that all these kind *Qualities* are treasur'd up in the *Hot Waters* only. Upon the whole, *Bath* is the *Asylum Chronicorum Morborum*, the common *Refuge* for all Persons, that labour under any *Chronick Diseases*, where *Scurvies*, *Cachexies*, and all other lingring Distempers, may be cured, *Cito*, *Tuto*, and *Fucunde*, by a Composition *Nature* has contriv'd for the Benefit of Mankind, which exceeds all the Mixtures and Compounds, that Man has or can invent. Compound Medicines consisting of Particles Heterogeneous, are not so adapted to the *Constitutions* of Mankind, as this Divine Composition,

tion, whose *Homogenious Nature*, by an admirable Contrivance of Providence, is not only fitted for all *Ages, Sexes, and Temperaments*, but by its never enough to be valued *Balsamick Virtues*, is *Natures* best *Restorative*, in order to recruit our *Radical Moisture* when spent and consum'd, and also to preserve the *Vital Flame* and *Native Heat*, when it begins to be languid and faint, in order to restore us to an agreeable Health, or an easier Prolongation of *Life*.

C H A P. XIV.

Of Cold Baths.

HOT and Temperate *Baths* there are at *Bath*, but no cold one at all; whenever the Citizens of *Bath* shall think fit to set up such a Conveniency, as that would be in some Cases, they would not find it any prejudice to their other *Baths*. I know no place where it may be practis'd with more prospect of success than there: For after a Course of Drinking and Bathing some time, the Blood is sweeten'd, and the Skin cleans'd, nothing in my Judgment like the *Cold Bath* at last in many Cases, to confirm the *Habit* of Body, and invigorate the *Animal Oeconomy*. Upon this Account it may not seem absurd at all in writing of *Hot Waters*, and bathing in them, to add something of *Cold Immersion* too in the last place. So much has been said by Sir John Floyer and Dr. Baynard, concerning ancient Use of cold Immersion, and the *Philosophical Reason* of its manner of Operation, in a great many Cases, that little more can be added

ed to that Subject. I was an early Favourer of *Cold Bathing* my self, when decried by many, that understood little of *Nature* or *Philosophy*. They thought *Life* consisting in a *sensible* and *active Heat*, and *Death* in a meer insensible *cold* : All their fear was, that the Coldness of the Circumambient Water of the *Cold Bath*, would extinguish the *Native Vital Heat* of our Blood, which proceeded from their Ignorance of what the ancient Physicians had said on this Subject, as well as the Reports of such as have liv'd in cold *Climates*. I remember very well above 20 Years ago, it was my Fortune to Winter in the most Northern Part of *Poland*, a very cold Climate, in the Latitude of 56 and 57. where the Inhabitants were all of a strong and lusty Constitution, had very hard Flesh, and rarely ailed any thing, not so subject to Diseases as such as live in the warmer Climates, whose Flesh is loose and more subject to too much *Perspiration*. And I am very much inclin'd to believe a great part of Mankind owe the Infirmities of their Constitutions to too great a *Perspiration*, most evident in *Hysterick Women* and *Hypochondriack Men*, the Fibres of whose Membranes are loose :
 Having

Having lost their Tone, there is a greater Discharge made in the Habit of the Body, the Pores being more open, and then the Organs must be out of tune and flaccid for want of Recruits, proportionable to the Expence. And this I take it is the *Reason* also, why such Persons are so very subject to Colds, Faintings and Lowness of *Spirits*, which is their most frequent Complaint. And cold Water externally thrown on them, or intentially taken, proves a better Cordial by contracting the Membranes in the Habit of the Body, and checking this Expence, than any Recruits by *Cordials* of any kind. And this may be the reason of the great Increase of People in Northern colder Countries, who us'd to swarm, and then invade their warmer Neighbours for more Room and Subsistence, because their Children being bred hardier, were not so obnoxious to *Distempers* and *Death*, as such as were brought up more tenderly. The poorest in this Country eat and sleep in warm Stoves, where their Children seldom wear any thing but a Shirt till seven or eight Years old, whose Diversion I observ'd was little else but warming themselves by the warmest part of the *Stove*,
and

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and immediately after that tumbling one another on the *Snow*, by which varieties of Pastime their Flesh becomes as hard as *Brawn*, and they the better fitted for the Injuries of the bitter cold Weathers, they must endure, when they are expos'd to them in the Course of their Lives afterwards. 'Tis this that secures them from Mortifications, which would happen much oftener, were they not inur'd to these Hardships while young, by hardning of their Flesh. This Misfortune happen'd I remember one day, travelling in *Prussia* on a Lake frozen over, to a Gentleman in our Company, a *Dantzicker* Merchant, who was of a sudden frozen in both his Feet, so as not able to go nor stand. Now the Method of Cure in this Case is to apply Snow or Ice broken to the part; and which is a very severe Affliction, they hardly allow such as are in these Circumstances the benefit of a *Stove*, whose warmth hastens the Mortification too fast. Nor dare they apply any thing warm or spirituous to bathe it withal, because the Flesh then comes off from the very Bone like so much rotten Dirt The cold Application preserves the *Tone* of the *Fibres* of the Parts affected, and if their Native Heat can
dissolve

dissolve gently the Coagulated Juices in their hollow *Tubes*, and render them fluid again, the Part is preserv'd, otherwise a Mortification follows. Whether it happen'd in this Case, I know not, because I saw not the Event of it; we parting Companies, left the Gentleman on the Road to *Koningsberg*, he not being able to travel with us. In this Journey every 3 hours, and sometimes less, we refresh'd our selves in the warm *Stoves* of the People of the Country, who were so miserably poor, that we were forc'd to carry our Provisions for our selves and Horses for several days together. Now in these *Stoves*, at our first entrance, the Pores being much closed by the cold Air, we cou'd hardly breath, but in a few Minutes, when the Heat of the *Stove* had rarefied our Blood, and open'd our Pores a little, we felt nothing at all. I mention these things only that you may see of what use it may be to us, not to bring up Children tenderly, for the more healthy they'll be, and the more fit to bear Fatigues and Hardships. I must confess such is the *Temperature* of our *Climate*, that *Cold Baths* are not so universally good, as in the warm Regions of *Spain*, &c. where I have known a Glass of Water cool'd with
Ice,

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Ice, and a piece of Ice held in a Man's Hand, like a *Cold Bath*, were Cordials ; yet I have met with many in *England*, whose weak Habit of Body required rather *cold* than *hot* Immersion.

A
RELATION
Of an Extraordinary
Sleepy Person
A T
Tinsbury, near Bath.

MAY the 13th, Anno 1694. one Samuel Chilton, of Tinsbury near Bath, a Labourer, about 25 Years of Age, of a robust Habit of Body, not fat, but fleshy, and a dark brown Hair, happen'd, without any visible cause, or evident sign, to fall into a very profound Sleep, out of which no Art used by those that were near him, could rouse him, till after a Months time; then rose of himself, put on his
I Cloaths

Cloaths, and went about his Business of Husbandry as usual ; slept, cou'd eat and drink as before, but spake not one word till about a Month after. All the time he slept Victuals stood by him ; his Mother fearing he wou'd be starv'd, in that sullen Humour, as she thought it, put Bread and Cheese, and Small Beer before him, which was spent every day, and supposed by him, tho' no one ever saw him eat or drink all that time.

From this time he remain'd free of any Drowsiness or Sleepiness till about the 9th of *April 1696*, and then fell into his sleeping Fit again just as he did before. After some days they were prevailed with to try what effect Medicines might have on him, and accordingly one Mr. *Gibs*, a very able Apothecary of *Bath*, went to him, Bled, Blister'd, Cupp'd and Scarrified him, and used all the external irritating Medicines he could think on, but all to no purpose, nothing of all these making any manner of impression on him; and after the first fortnight he was never observ'd to open his Eyes. Victuals stood by him as before, which he eat of now and then, but no Body ever saw him eat or evacuate, tho' he did both very regularly, as he had occasion; and sometimes they have found him

him fast asleep with the Pot in his Hand in Bed, and sometimes with his Mouth full of Meat. In this manner he lay for about ten Weeks, and then could eat nothing at all, for his Jaws seem'd to be set, and his Teeth clincht so close, that with all the Art they had with their Instruments they cou'd not open his Mouth, to put any thing into it to support him. At last, observing a Hole made in his Teeth, by holding his Pipe in his Mouth, as most great Smoakers usually have, they, thro' a Quill, pour'd some Tent into his Throat now and then: And this was all he took for six Weeks and four Days, and of that not above three Pints or two Quarts, some of which was spilt too; he had made Water but once, and never had a Stool all that time.

August the 7th, which is seventeen Weeks from the 9th of *April*, (when he began to sleep) he awaked, put on his Cloaths, and walkt about the Room, not knowing he had slept above a Night, nor could he be perswaded he had lain so long, till going out into the Fields he found every Body busie in getting in their Harvest, and he remember'd very well, when he fell asleep they were sowing of Barley and
I 2 Oats,

Oats, which he then saw ripe and fit to be cut down.

There was one thing observable, That tho' his Flesh was somewhat wasted with so long lying in Bed, and fasting for above six Weeks, yet a worthy Gentleman his Neighbour assured me, when he saw him, which was the first day of his coming abroad, he lookt brisker than ever he saw him in his Life before; and asking him whether the Bed had not made him sore, he assured him and every Body, that he neither found that, nor any other Inconveniency at all; and that he had not the least remembrance of any thing that past or was done to him all that while. So he fell again to his Husbandry as he used to do, and remain'd well from that time till *August* the 17th, *Anno* 1697, when in the Morning he complain'd of a shivering and coldness in his Back, vomited once or twice, and that same day fell into his sleeping Fit again.

Being then at the *Bath*, and hearing of it, I took Horse on the 23d, to inform my self of a Matter of Fact I thought so strange. When I came to the House, I was by the Neighbours (for there was no body at home at that time besides this Man) brought to his Bed-side, where I found
him

him asleep, as I had been told before, with a Cup of Beer, and a Piece of Bread and Cheefe upon a Stool by his Bed within his reach: I took him by the Hand, felt his Pulse, which was at that time very regular; I put my Hand on his Breast, and found his Heart beat very regular too, and his Breathing was easie and free; and all the Fault I found was, that I thought his Pulse beat a little too strong: He was in a breathing Sweat, and had an agreeable warmth all over his Body. I then put my Mouth to his Ear, and as loud as I cou'd, called him by his Name several times, pull'd him by the Shoulders, pinch'd his Nose, stopt his Mouth and Nose together, as long as I durst, for fear of Choaking him, but all to no purpose, for in all this time he gave me not the least signal of his being sensible. I lifted up his Eye-lids, and found his Eye-balls drawn up under his Eye-brows, and fixt without any motion at all. Being baffled with all these Tryals, I was resolv'd to see what effects *Spirit* of *Sal Armoniac* would have, which I had brought with me, to discover the Cheat, if it had been one; so I held my Viol under one Nostril a considerable time, which being drawn from Quicklime, was a very piercing Spirit, and so strong I could not bear it under my own Nose a moment, without

making my Eyes water ; but he felt it not at all. Then I threw it at several times up that same Nostril, it made his Nose run and gleet, and his Eye-lids shiver and tremble a very little, and this was all the effect I found, tho' I pour'd up into one Nostril about a half ounce Bottle of this fiery Spirit, which was as strong almost as Fire it self. Finding no success with this neither, I cramm'd that Nostril with Powder of *White Hellebore*, which I had by me, in order to make my farther Tryals, and I can hardly think any Impostor cou'd ever be insensible of what I did. I tarried some time afterwards in the Room, to see what effects all together might have upon him ; but he never gave any token that he felt what I had done, nor discovered any manner of uneasiness, by moving or stirring any one part of his Body, that I could observe. Having made these my Experiments I left him, being pretty well satisfied he was really asleep, and no sullen Counterfeit, as some People thought him.

Upon my return to *Bath*, and relating what I had observ'd, and what Proofs this Fellow had given me of his Sleeping, a great many Gentlemen went out to see him, as I had done, to satisfy their Curiosity

riosity in a Rarity of that Nature, who found him in the same Condition I had left him in the day before ; only his Nose was inflamed and swelled very much, and his Lips and the inside of his Right Nostril blister'd and scabby, with my *Spirit* and *Hellebore*, which I had plentifully dos'd him with the day before : His Mother upon this for some time after would suffer no body to come near him, for fear of more Experiments upon her Son. About ten days after I had been with him, Mr. *Woolmer*, an Experienc'd Apothecary at *Bath*, called at the House, being near *Tinsbury*, went up into the Room, finding his Pulse pretty high, as I had done, takes out his Lancer, lets him Blood about fourteen Ounces in the Arm, tyes his Arm up again, no body being in the House, and leaves him as he found him ; and he assured me he never made the least motion in the World when he prickt him, nor all the while his Arm was bleeding.

Several other Experiments were made by those that went to see him every day from the *Bath*, but all to no purpose, as they told me on their return : I saw him my self again the latter end of *September*, and found him just in the same posture, ly-

ing in his Bed, but remov'd from the House where he was before about a Furlong or more ; and they told me, when they remov'd him, by accident, carrying him down Stairs, which were somewhat narrow, they struck his Head against a Stone, and gave him a severe knock, which broke his Head, but he never mov'd any more at it than a dead Man would. I found now his Pulse was not quite so strong, nor had he any Sweats, as when I saw him before. I try'd him again the second time, by stopping his Nose and Mouth, but to no purpose ; and a Gentleman then with me ran a large Pin into his Arm to the very Bone unknown to me, but he gave us no manner of tokens of his being sensible of any thing we did to him. In all this time they assured me no body had seen him either eat or drink, tho' they endeavour'd it all they could, but it always stood by him, and they observ'd sometimes once a day, sometimes once in two days, all was gone. 'Tis farther observable, he never foul'd his Bed, but did his necessary Occasions always in the Pot.

In this manner he lay till the 19th of November, when his Mother hearing him make a Noise, ran immediately up to him, and found him eating ; she askt him how
he

he did ? He said, Very well, thank God : She askt him again, Which he lik'd best, Bread and Butter, or Bread and Cheese ? He answered Bread and Cheese : Upon this, the poor Woman overjoy'd, left him to acquaint his Brother with it, and they came strait up into the Chamber to discourage him, but found him as fast asleep again as ever, and all the Art they had could not wake him. From this time to the end of *January*, or the beginning of *February*, (for I could not learn from any body the very day) he slept not so profoundly as before, for when they called him by his Name he seemed to hear them, and be somewhat sensible, tho' he could not make them any answer. His Eyes were not now shut so close, and he had frequently great Tremblings of his Eyelids, upon which they expected every day when he would wake, which happened not till about the time just now mention'd, and then he wak'd perfectly well, not remembering any thing that happened all this while. 'Twas observ'd he was very little altered in his Flesh, only complained the Cold pinchd him more than usually, and so presently fell to Husbandry as at other times.

I have no reason to suspect this to be any Cheat, because I never heard of any gain to the Family by it, tho' so near the *Bath*, and so many People went thither out of Curiosity to see the Sleeper, who when awake was a Support to his old Mother by his Labour, but now a certain Charge to her. Besides there was seldom any body in the House to attend any Profit might be made by it, he being left alone in the House, and every body at liberty to go up to his Bed side.

I am very apprehensive I have laid myself too open to the Censures of the World in this Relation I have here given of this uncommon *Sleeper*, because many will be apt to conclude at first sight, that 'tis impossible it should be true. As if they were acquainted with all the *Mysteries* of *Nature*. *Inest & in incredibili verum*, says *Minutius Felix*, there may be Truth in what seems to us incredible. Whoever will give himself the Trouble to inquire into the Matter of Fact at *Bath* may be satisfied that its really so. Now, if it be no forg'd thing, but an undoubted Truth, there needs no Philosophy to prove it possible, *Ab esse ad posse valet consequentia*. From this so odd a Story two Questions naturally do arise, which
the

the World may expect I should say something to. And the first is, How any Man can sleep so long, eat and drink between whiles, and not be sensible, nor remember any thing that past all that time. 2dly, How it can be possible that any Person could subsist so long as 6 Weeks and odd Days, without Food and Evacuation?

To the first I answer. The Doctrine of *Sensation* depending on the *Soul* as its proper Original Cause, till we are agreed what the *Soul* is, or wherein its *Essence* does consist, that must be obscure and dark, being one of the Operations by which the *Soul* is known to exist. I shall not trouble my *Reader* with all the *Notions* the *Ancients* have had about the *Soul*, some thinking it a *Fire*, a *Wind*, a *Spirit*, or a thin *Body*, contented with what is generally allow'd by the greatest part of Mankind, viz. That 'tis a *Being* distinct from the *Body*, separable from it, and capable of existing out of it. This is that *Principle* in us by which we live, move, feel and understand, which we call *Mind*. This is what I think the *Ancients* call'd *Particula Auræ Divinae*, and what the *Moderns* call the *Rational Soul*. Of which we can have no Knowledge *a Priori*, but by its Operations *a Posteriori* we may, when
we

we *Think, Reason, Desire, Believe, Remember* any thing, or our Senses dictate to us *Pain or Pleasure*. Then have we a *Certainty* of our *Existence*, and that these *Attributes* are altogether incompatible with more *Matter*, which is wholly *passive*. For this reason it more properly belongs to an active *Principle*, whose *Essence* consists in *Action*, which the *Cartesians* call *Cogitation*. And thus the *Soul* is describ'd by them to be the *Internal Principle* within us of our *Thoughts, Appetites, and Will*, by whose help all the *Functions, and Operations* are produc'd, which proceed from *Thought*. (*a*) And in his 6th Chapter, he affirms that the *Soul* is a *Spirit* that always thinks, and can never cease thinking, as long as it does exist, and that it ceases to be as soon as it ceases to think. *Descartes* (*b*) explains this Notion, that he means by *Cogitation*, sometimes the *Action*, sometimes the *Power*, and sometimes the *Thing* in which this Power is. The learned Mr. *Lock*, in his *Essay of Humane Understanding*, says, He cannot conceive it any more necessary for the *Soul* al-

(*a*) *Le Forge de mente Humana*, cap. 2.

(*b*) *Meditat.* p. m. 98.

ways to think, than for the *Body* always to move, the Conception of the *Idea's* being to the *Soul* what motion is to the *Body*, not the *Essence*, but one of its *Operations*; and therefore, tho' thinking be never so much the proper *Action* of the *Soul*, yet 'tis not necessary to suppose that the *Soul* should always *think*, nor is it essential to *Matter* always to be in motion, for then Rest alone would annihilate it. And yet I believe it will be a very hard Task for any body to assign *Rest* to any Particle of *Matter* in the *Universe*, not only because of the *Diurnal* Motion of all *Orbs* within their *Vortex's*, but also upon the Account of the *Intestine Motion* of the smaller Particles of *Matter* in the *Bowels* of the *Earth*, there being nothing else but a constant *Series* of *Generations* and *Corruptions* every where: Whether want of *Cogitation* or actual *Thinking* would destroy the *Soul* is not so manifest to us, who have not so good *Idea's* of the *Soul*, as we can have of *Matter*. What the *Powers* of *Matter* are, we may have a tolerable *Notion* of, but what those of the *Soul* are we are at a loss when we begin to think of them. *Hippocrates* (*a*) thinks

(*a*) Lib. de Carnibus.

Heat the Cause of *Thought*, and some there are suppose it the *Result* of *Particles* of Matter so dispos'd, and rang'd together, as to be able to produce *Thought* in us, and all the *Operations* before mention'd. Thus a *Watch* or *Clock* shows the *Hour*, and the *Motions* of the *Heavenly Bodies*, by its *Springs* and *Wheels* so ordered and contriv'd. 'Tis the received Opinion, when we begin to live, feel, &c. we are indued with an *Intellectual Soul*, and that *Death* is the *Recess* or *Departure* of it from the *Body*. That *Life* may be without *Thought* is plain in *Vegetation*, but how *Sense* can be without it, is hard to be made out. Upon the whole, if the *Soul* be a *Spirit*, Congenial with *Angels*, how can it cease from *Action* or *Thought*. If only a *Power*, it may act or not act, think or not think at *Pleasure*. If the *Result* of the *Contexture* of the *Particles* of Matter, then it acts out of meer *Necessity*, and Men judge and think better than others, because better put together: The *Fox* is cunninger than the *Ass*, and the whole *Family* of *Hares* make better shifts when hunted than a *Fox*, because their *Organs* are more adapted for such *Evasions*. Philosophers tell us there are three *Souls* in *Man*, the *Rational*, the *Sensitive*, and the

Vegetative ; and that these are distinct in their *Properties*, *Attributes* and *Offices*, one from the other. That the two last are subordinate to the first, which they tell us distinguishes a *Man* from a *Beast*, as the *Sensitive Soul* does the *Beast* from the *Plant*. Now if this Philosophy be true, the *Rational Soul* being lost for a time, the *Sensitive* Eclips'd, and nothing left but the *Vegetative*. This Creature, when inspired with the *Divine Ray of Reason*, was honour'd with the *Dignity of a Man*, but in his sleepy Fit fall'n below the *Degree of the Sensitive Plant*. And the Story of *Hermotimus* mention'd by *Plutarch*, (*a*) *Tertullian* (*b*) and *Pliny* (*c*) may be true too, whose *Soul* frequently left his *Body*, went into far *Countries*, and gave an *Account* of what pass'd there, which that *Wag Lucian* laughs at as a *Fable* in his *Encomium Muscæ*. Not unlike this is what *St. Austin* tells us (*d*) of one *Resitus*, a *Priest* in *Phœnicia*, who would fall down at *Pleasure* so like a *dead Man*,

(*a*) Lib. de Genio Socratis.

(*b*) De Anima.

(*c*) Lib. 7. c. 52.

(*d*) Lib. 14. cap. 24. De Civitate Dei.

that he neither breath'd nor felt when they pinch'd or burnt him, and this he would do at any time to gratifie any body that desired him. After all he that can tell me what the Essence of the *Soul* is, how as a *Spirit* it operates on matter, and what Cement 'tis that keeps them together, whoever will unriddle to me those Mysteries shall be my *Apollo*. Till that time I shall say with *Lucretius*.

Ignoratur enim quid sit Natura Animai.

So that till we can come to a certain Knowledge what the *Soul* is, we can never come to the Knowledge of its *Powers* and *Operations*, nor ought to determine any thing positively concerning it as impossible.

Question the 2d, How it can be possible that any Person could subsist so long as six Weeks and odd Days without Food or Evacuation?

I answer, It will be no easie Undertaking to perswade the World, that any Man can abstain from *Food* so long, because knowing how few hours they can live without Recruits themselves, they can have no Notion how any body can subsist so many Weeks. But what has been may be

be, and very learned men assure us of their own Knowledge, that the Matter of Fact is true, that Persons have lived several Weeks without eating any thing considerable all the time. Certain it is, in Persons in Health, whose *Vital Heat* is brisk, the Case differs mightily, for such must have Nourishment to supply the Expence they are at by Perspiration and other Evacuations. But in this Case the *Heat* is calm and gentle, and consumes their Blood and Spirits very slowly, as a *Lamp* burns slowly, when there is much *Oyl* and little *Flame*. We have frequent Examples of *Leuco-Phlegmatick Virgins*, who from a gradual Decay of *Appetite*, have fall'n at length into an absolute Aversion from all Food, and endured a long Abstinence, without either *Miracle* or *Imposture*. Where the *Motion* and *Ferments* of the Blood is small, the *Expence* must be so too, in this *Morbid State*, and the less Recruits are required for the supporting and sustaining so languid and weak Life. And this I take to be the meaning of that Saying of *Hippocrates* (*a*) Such as are of

(*a*) De victu Acutor.

a hot Bilious Constitution, cannot bear the Inconveniency of Fasting, as well as such as are of a Phlegmatick *Nature*. And this, I take it, is the Case of *Abstinent*s, such as live long without Food, they are of a very cold Constitution, and abound with a thick viscous Phlegm in their Stomach and Intestines, which destroys the Appetite and Sense of those Parts, so that there the Motion is slow, little or no Evacuation by Perspiration, Stool, or Sweat. Experience tells us, that those *Animals* that sleep long, such as *Dormice*, *Vipers*, *Snails*, *Bats*, and the like, are all cold Creatures, live underground or in Holes all Winter, and in Summer only appear when the *Sun*s Heat is strong enough to raise their *Vital Heat*, that before was checkt by Cold. My Argument would be much stronger if the Relation of *Baron Herberstein* were true (*a*) who tells us, there are in the Northern Parts of *Muscovy* near the River *Oby*, on the Borders of *Tartary*, a People he calls *Leucomori*, who sleep from the 27th day of *November* till the 23^d of *April*, like Tortoises un-

(*a*) Comment. Rer. Moscovit.

derground, and then come to Life again, tho' quite frozen all the Winter. This Gentleman was twice Ambassador in *Russia* from *Ferdinand* the Emperor, and dedicated his Commentaries to him when he returned the second time, but nevertheless he must have a strong Faith that can believe it. I can easily foresee an Objection will arise, that the Animals I have mention'd when they sleep and fast thus, act according to the determin'd *Laws* of their own *Nature*, so that there can't be the same Parity of *Reason* for the one that there is for the other.

I answer. Animal or Sensitive *Life* is the same in *Mankind* as in these *Brutes* I have mention'd, *Nature* acting univocally in all Creatures. They eat, drink, and sleep as we do, are nourish'd in the same manner as we are, have their *Veins*, *Arteries* and *Nerves*, which serve for the same uses ours do, only our Constitutions are warmer, and we are better able to subsist in Winter than such Animals as we have nam'd can. But suppose by Sickness our Blood and Humours should be congeal'd, or in a manner frozen within us, or that our Spirits should be inviscated, or fetter'd, that they cannot exert themselves in so glutinous a Phlegm, and the *Vital Heat* is

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become

become dull and languid, which is their Case, and may be ours. I say then when we are reduc'd to their *Temperament*, which is not impossible but we may, I see no *Reason* according to the *Laws* of *Motion*, why the *Effect* upon us should not be the same. Thus Man, when in *Health*, cures Wounds with his *Saliva* or Spittle, which in a Morbid State, viz In the Disease called *Hydrophobia*, becomes as venomous and fatal as that of a *Viper* or a *Rattle-Snake*. Now 'tis more to my purpose if it be true; as the Learned suppose it, that this *Poison* is not only occasioned by the Bite of a mad *Dog*, or any other Creature, but 'tis possible without any manifest Cause, may be bred within us, as *Cælius Aurelianus*, (a) *Petrus Borellus*, (b) and some others I could mention, have deliver'd as their Opinion upon their own Observation.

'Tis moreover probable that the *Air* may contribute something towards the Support of the Animal *Life* for a considerable time. If all Bodies are as well in-

(a) De morbis Acutis, cap. de Hydrophobia.

(b) Cent. 2. Obs. 52.

spirable as expirable, as was said and prov'd before, p. 79. why may not the *Air*, entering into our *Pores*, convey with it such a Moisture as may nourish in proportion to the Expence. *Est in Aere occultus vitæ cibus*, says *Cosmopolita*. Thus *Air* consisting of various Exhalations, and Vapours from all Parts, by the purer *Æthers* Elasticity, may become Congenial with our Spirits, and supply us with Nourishment for a time. That there is a *Magnetism* in Liquids as well as Solids, the ingenious *Sinibaldi* (*a*) is of opinion, and that similar Bodies attract one another. That an Animal may be supported and nourish'd by *Air*, he proves by Experiment, That young *Vipers*, not above an Inch long, put into an empty Glass, cover'd with Paper, prick'd with holes to let in Air; will, in less than a Years time grow to be a Foot long without *Food*. That the Process of *Nutrition* is perform'd *Ἀτμοειδῶς*, *sub specie Vaporis*, is the Opinion of very learned Men. The ingenious Dr. *Ent* will not allow the Nutricious Juices should have any Thickness in them. That Smells are very refreshing every body has experienc'd.

(*a*) *Apollo Bifrons*, p. m. 177.

Thus good old *Democritus*, at the Age of 109, and dying, not able to eat, was supported by the Smell of new Bread dipt in Honey three days together, till the *Feasts* of *Ceres* were over, as *Diogenes Laertius* tells us in his Life. And I am persuaded Cooks are generally fat more from the Smell of Victuals than from what they eat. If these things are in Nature, as I am prone to think they are, than a Man or Woman may live several Months with very little or no Food all that time.

POST-

POSTSCRIPT.

AS I had finished this Relation, I met with something like it from *Rotterdam*, lately printed in *London*, which I shall here give my Reader an Abstract of. *Dirk Klaasz Bakker* of *Stolmyck*, not far from *Rotterdam*, slept from the thirteenth of *July* 1706. to the eleventh of *January* 1707. without Intermission, being six Months, and on the twelfth of the same Month, being the next day, fell asleep again, and is at present sleeping and alive; on the eleventh of *March*, *N. S.* when this was written. For forty Days together he did eat nothing at all, only one day drank four or five Porringers of Water, and now and then a Spoonful of Spanish Wine, which, in all, amounted to not above five Ounces, and this is all that he has drank since his first sleeping His Sister every day now gives him a mouthful or two of Victuals, not enough to subsist a new born Child. This is attested

136 *A Relation of, &c.*

tested by Dr. Paul Walwick, Dr. Cornelius Vander Zee, Dr. Henry Snellen, and Dr. Abraham Solomon Vander Voort, four eminent Physicians in Rotterdam, and printed by John Morphew near Stationers Hall, London.

ADDENDA.

PAge the 19th, Line 10. after instant add these Words,

And common Water mixt with Powder of Brimstone, and Filings of Iron, did in a short time grow intensely hot, and send up such a thick Smoak as good Quicklime is wont to do, when slak't with Water, as Mr. Boyle tells us. Salubrity or Insalubrity of the Air, p. 61.

ERRATA.

Page 1. Line 5. read Probable. Page 7. l. 26. read 53. after traxerit, &c. Page 17. l. 27. after burn, add not. Page 25. dele also. Page 28. r. dropt, l. 26. after lies, add in. Page 47. l. 18. r. and meet for meeting. Page 70. l. 5. r. Sil. Page 77. instead of remov'd, r. upon them. Page 86. l. 28. for instead of there r. which. Page 89. l. 7. after Cases r. by. Page 93. for obstructive r. obstructed, which the Candid Reader is desired to mend before he reads.

F I N I S.

